TECHNOLOGY DEPARTMENT

Member Associated Business Papers, Inc.

The Newspaper of the Industry

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AIR CONDITIONING AND REFRIGERATION News

Issued Every Monday at 450 W. Fort St., Detroit 26, Mich.

August 1, 1949

Vol. 57, No. 14, Serial No. 1063
Established 1926

PUBLIC LIBRARY JUL 30 1949 DETROIT

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INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week
Gag of the Week
Fable of the Week
Boy, Another Aspirin!
Wisdom
Income Tax
Understand It First
Deterioration of Salesmen

Story of the Week

Most textbooks are so dull and unclear and pedantic that they defeat their purpose—which is transferring information and ideas into the reader's mind.

All the frustrations of an unhappy and bewildered student were expressed in this terse message on the inside cover of his textbook on economics (which we picked up at a second-hand book mart the other day):

"In case of fire, throw this in."

Gag of the Week

"No, no, Miss Tuttle," corrected the professor. "That quotation is: 'All men are created equal,'—not 'all men are made alike.' "

Fable of the Week

Everybody loves dogs, but nobody likes fleas. With this fateful introduction, we figure it's all right to stagger out this Foolish Fable:

Two million fleas chose a big, inactive dog for their abode. Life was sweet and easy for these socialistic fleas. Food and shelter were provided from a central source, and heat was supplied by the generous animal. Freedom from want and fear had been attained. There was, in fact, a housing unit in every wrinkle.

All the fleas had to do was eat, sleep, and multiply.

The dog seldom scratched or otherwise disturbed their peace. Thus the fleas enjoyed an abundant life. And they multiplied amazingly.

The patient old dog, sore and unappreciative, finally grew weary. Unable to support the hungry and nonproductive flea population, he gave up and died. Consternation reigned among the fleas. They ran frantically from one end of the body to the other, shouting that the economic system had let them down. There was some talk of suing the old carcass for lack of cooperation. Many of the panicky parasites, disillusioned and dispossessed, perished on the spot. By this time they were totally incapacitated to search for a new livelihood.

Others, bitter in spirit, trudged out to face a cruel world, and died by the roadside trying to thumb a ride to the next dog.

A *soupcon* of initiative and individual struggle, plus discipline and self-reliance, and the fleas would be living yet. And so would the dog.

Boy, Another Aspirin!

One of the chief obstacles encountered by Tom Pendergast in moving his family from Ohio to Maine was the transportation of some four horses, a pony, a ten-day old colt, and a billy goat. This was the problem of the president of Baker Refrigeration Corp. when he moved from Ohio to South Windham, Maine.

Tom Pendergast went to Maine last October to assume his new position as general manager at Baker. (He was elected president in March.) After consulting practically every real estate dealer in Portland, he decided to purchase a portion of the Verrill Estate at Standish Neck on Sebago Lake. He just had to have barn space for the horses.

(Concluded on Page 12, Column 3)

Westinghouse Hits Demand for Wage Boost

PITTSBURGH—Due to "less business and keener competition, Westinghouse is not in a position to grant a fourth-round wage increase. Nor does the trend in the cost of living justify it. Therefore, we have said 'no' to the UE's request for a $500 a year per employe increase."

That statement was issued last week by W. O. Lippman, vice president in charge of plant labor relations for the Westinghouse Electric Corp. to clarify the company's stand in rejecting demands by the United Electrical Workers, CIO, for increased wages, pensions, and other benefits.

Negotiations between the union and the company have been broken off, subject to call again by the union.

Lippman further stated: "As part of its $500 request, the union asks that we consider an expanded pension program. In accordance with our two-year contract, which limits negotiations to wages only, we do not agree to consider pensions as a subject for negotiation this year.

"It will be recalled, however, that last year Westinghouse did propose a broad employe security program, including pensions. This was rejected by the union, which preferred to take the money in the pay envelope."

Lippman supported the company position by explaining that "the immediate problem facing Westinghouse in this period of declining

(Concluded on Back Page, Column 2)

3 Named In Top-Level Lynch Appointments

(See photos on back page.)

TOLEDO — Lynch Corp. has announced the promotions of T. C. Werbe from president to chairman of the board, a newly-created office, and M. H. Pendergast from executive vice president and general manager to president.

At the same time, it was announced that J. P. McCarthy, director of manufacturing of the Ohio Division for the past 11 years, has been elected vice president in charge of manufacturing in all plants of the company.

Werbe has been president of Lynch since its incorporation in 1928 and was an officer of the predecessor companies since 1917. Pendergast had held the office of executive vice president and general manager for several years.

Lynch manufactures Par air and refrigeration compressors at its Defiance, Ohio, plant; an extensive line of packaging machines at its Toledo plant; and glass-forming machinery at its Anderson and Marion, Ind., plants.

Servel Sales, Service Personnel Is Changed

EVANSVILLE, Ind. — John K. Knighton, newly-appointed general sales manager for Servel, has announced numerous personnel changes in the company's sales department and consolidation of service departments.

O. F. Keune, who has been Servel's regional manager in the southeastern area, has been named assistant general sales manager for the company with district responsibility for field sales activity.

H. M. Wickman, who has been sales manager of Servel's household refrigeration division, has been

(Concluded on Page 4, Column 1)

Houston, San Antonio Data Shows 'Powerful Lot' of Air Cooling

HOUSTON — Fabulous, booming Houston has chalked up what it thinks is another record—since 1946 more than 77,000 tons of air conditioning have been installed in the city.

Called by some "the most completely air conditioned city in the world," Houston as of June 30 this year had approximately 107,000 tons of air conditioning, according to the local Chamber of Commerce.

Some 30,000 tons had been installed prior to 1946. That year saw 7,959 tons added. Installations soared in 1947 when 15,526.5 tons were added, and in 1948 there were 25,925.25 tons.

Even the record figure has been already topped in 1949, for during the first six months of this year a total of 27,829.5 tons were installed. All this data was assembled by the staff of the C. and C.'s magazine *Houston* with the cooperation of local engineers, distributors, and manufacturers' branches.

What impresses the Chamber of Commerce is not only the amount of air conditioning in the city, but also the wide variety of applications.

More than 7,500 homes are partially air conditioned; more than 1,000 are completely air conditioned, and some 1,200 have systems of 5 tons or more, the C. of C. states.

(Concluded on Page 9, Column 2)

SAN ANTONIO, Tex.—Known as the city where "the sunshine spends the winter," local air conditioning men profit from the fact that the sun also spends the summer here.

In fact, contractors here claim they have little doubt that San Antonio is the most air conditioned large city in the world on a per capita basis.

One air conditioning man of many summers in the business said he doubted if more than 15 places on Houston St. (the main business street in San Antonio) from Alamo Plaza to the Houston St. bridge over the San Antonio river, a distance of more than half a mile, are not air conditioned.

"Numerous small stores exist in the area, and nearly all are air conditioned," he said.

It is conceded that for Texas, Houston and Dallas both surpass San Antonio in total air conditioning on the basis of their greater populations, but the two larger cities could not hold a candle or an ice cube to San Antonio in air conditioning firsts, claim local citizens.

Here are some of San Antonio's claims:

The Frost National Bank was the first bank in the United States to install air conditioning, graduating from washed air in 1922 to a 50-ton capacity air conditioning installation

(Concluded on Page 9, Column 4)

Allocations

Distributor Revives Them To Meet Surge In Sales

CHICAGO — Refrigerators have gone back on allocation at R. Cooper, Jr., Inc., General Electric distributor here.

Cooper asserted that he cannot get all the refrigerators he needs at this time. He expressed the belief that many persons have misjudged the strength of the market and that pessimism today is unwarranted.

His organization did a sales volume of $10,390,000 for the first half of the year as compared with $10,125,000 for the same period last year. Because of price drops, this represents a substantially larger volume than last year, he further noted.

However, net earnings were little more than half of what they were last year. They were too high then, Cooper philosophized.

May Freezer Sales Drop In U. S., But Rise Abroad

(See table on page 4)

NEW YORK CITY—May sales of home and farm freezers by 28 firms to the National Electrical Manufacturers Association slipped 6% below those of April, according to figures released recently by the association.

The number of firms reporting in May was one more than in April—Westinghouse Electric Corp. being the newcomer.

For the first five months of the year, a total of 120,229 home and farm freezers were sold by 28 to 31 firms. Of this total, 1,720 units were sold outside the United States.

For May, foreign sales by reporting firms were up 29% over April with more than two thirds of the units sold abroad during the month having 4.9-cu. ft. capacity or less.

Sales in the various size categories shifted up or down by a few hundred units with only sizeable change occurring in the 11 to 12.9 cu. ft. category. In this grouping 3,505 units were sold in May as compared with 5,178 in April.

The May total included 1,299 upright models. For the five months, 6,788 uprights have been sold.

Blood, Smith Take New Posts at Norge

DETROIT — Howard E. Blood, president and general manager of Norge and chief executive of Detroit Gear, another Borg-Warner Corp. division, has been elevated to the position of chairman of the board of Norge division, at the same time retaining his post as president of Detroit Gear division, the Borg-Warner Corp. announced last week.

George P. F. Smith, a Borg-Warner vice president, as is Blood, has been elected to succeed Blood as president and general manager of Norge division. Smith has been serving as assistant to G. A. Shallberg, Borg-Warner executive vice president in Chicago.

At the same time, Blood announced the appointment of John A. Underwood, of New York City, to fill a new position in the Norge division, that of vice president in charge of sales. H. L. Clary remains with Norge as director of sales.

According to Blood, the changes in top executive assignments were made by the supervisory board of the Norge Division to permit Blood, as president of the Detroit Gear division, to devote more time to the development and manufacture of the new, recently announced Borg-Warner automatic transmission.

(Concluded on Page 4, Column 3)

G-E Shows New Model Of Portable Dishwasher

NEW YORK CITY—Introduction by General Electric Co. of a new portable, manually-controlled electric dishwasher which is said to perform "exactly the same" job as the deluxe, automatic machine and which has the same capacity has been announced by C. J. Enderle, manager of the company's sink and cabinet division.

The round dishwasher, which is being offered on a market-by-market basis, is 36 in. high and 23½ in. in diameter. It will reportedly handle up to 100 articles.

Enderle explained that a high-speed impeller sprays streams of hot detergent solution on contents of

(Concluded on Page 4, Column 4)

Wage-Hr. Div. Waits Review Of Amendment

Clarification of New Ban In 'Overtime on Overtime' Pay Dispute Is Due Soon

WASHINGTON, D. C. — Pending review of the new amendment to the Wages and Hours law which bans "overtime on overtime" payments, the Wage and Hour and Public Contracts Division of the Department of Labor is holding up all action on cases involving overtime.

Official interpretations and enforcement policies on the amendment will be issued by the administrator of the division shortly. It is expected that these will return the division back to the status preceding the Supreme Court decision of last year in the *Bay Ridge Operating Co. vs. Aaron* case.

Under the Congressional amendment H.R.858, "an act to clarify the overtime compensation provisions of the Fair Labor Standards Act," which is retroactive certain premiums paid by employes for work on Saturdays, Sundays, holidays, nights, or on the sixth or seventh day of the workweek, need not be added to an employe's straight-time pay in determining his "regular rate" for overtime pay purposes,

(Concluded on Back Page, Column 4)

Philco Corp. Introduces 2 Refrigerator Models

PHILADELPHIA — Two new refrigerators—a 7.2-cu. ft. model priced at $199.50 and a 7.6-cu. ft. model incorporating "Advanced Design" features—have been introduced by Philco Corp. and are now available at all Philco dealers, according to W. Paul Jones, vice president—refrigerating division.

"New low prices" of the models were emphasized in the announcement.

The 7.2-cu. ft. refrigerator, model 792, is said to be "of the newest, space-saving Philco design that fits in the floor area of a 4-cu. ft. refrigerator."

It has a glass-covered crisper

(Concluded on Back Page, Column 2)

IN THIS ISSUE

A Philadelphia refrigeration equipment company doubled its service and sales business with a consistent penny postal card campaign promoting the sale of service contracts. For the illustrated story and a reproduction of the contract form, turn to **page 10.**

* * *

The use of frozen lollipops, believe it or not, is given most of the credit for the sale of 35 appliances by a York, Pa., dealer. Read about this novel Coolerator promotion on **Page 22.**

* * *

Believing that a picture is worth a thousand words, a Denver heating and air conditioning firm installed in its showroom a sample ductwork system which illustrates five types of outlet grilles and two types of automatic heat simultaneously. To find out more about this installation, which the concern considers one of the most efficient selling tools it has ever developed, see **page 6.**

* * *

One of the reported results of the heat pump installation in the Equitable bldg. in Portland, Ore., is "coefficients of performance so high they seem fantastic." An article on **page 5** elaborates on this on other results.

SPECIFY ACME PRODUCTS WHERE Performance COUNTS

AMMONIA CONDENSERS
OIL SEPARATORS
LIQUID RECEIVERS
HEAT EXCHANGERS
PIPE AND FIN COILS
DRY-EXWATER CHILLERS
EVAPORATIVE CONDENSERS
HI-PEAK WATER COOLERS
FREON SHELL AND TUBE CONDENSERS
FREON SHELL AND COIL CONDENSERS
BLO-COLD INDUSTRIAL UNIT COOLERS

*SINCE 1919

Select the items you are interested in, and . . .

Write for free Acme Catalog today

ACME INDUSTRIES INC.
JACKSON, MICHIGAN
Representatives in principal Cities

WANTED

WE DESIRE TO PURCHASE FOR CASH QUANTITIES OF MERCHANDISE SUCH AS

Fractional H.P. Motors.
Refrigeration Parts.
Automotive and Plumbing Fittings.
Electric Cords.
Hardware or any other new items.

WRITE, WIRE or PHONE

G.&E. Equipment Supply Co.
Ogden at Fulton Chicago 7, Illinois
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Roush Named President, Gen. Mgr. of Kerotest

PITTSBURGH—Edward G. Mueller, board chairman of Kerotest Mfg. Co. recently announced the election of Stanley J. Roush as president and general manager; Walter G. Swaney as vice president and secretary; R. E. Lane as treasurer. New directors are Robert C. Downie and John Dupuis.

Stanley J. Roush

Work Begins on Addition To La Crosse Warehouse

LA CROSSE, Wis.—The La Crosse Cooler Co. recently announced that work has been started on a 140-ft. by 150-ft. addition to their present warehouses to aid in plant traffic and general operations.

The new plant of the La Crosse Cooler Co. was completed in 1946, but the addition of many new items to their line of commercial refrigeration equipment has made it necessary for additional production space within the plant.

This has necessitated the building of this new warehouse for the storage of raw materials and will enable the firm to accomodate a better stock of its many items. The warehouse should be completed within approximately 90 days.

Hotpoint Summer Promotion To Use 'Lucky Key' Idea as Door-Opener for Canvassers

CHICAGO—Hotpoint has announced inauguration of a full line summer sales program, the "Magic Key Jubilee," which is intended to give dealers practical methods for house-to-house canvassing, user follow-up, correct use of direct mail, using the telephone as a sales tool, and building a prospect card file system.

The program is being introduced by Hotpoint dealers and will be activated during August and September, officials of the manufacturer announced.

Outlining the specialty selling campaign to dealers, they said that the Magic Key Jubilee is a sales building activity that uses "old customers to make new ones." Distributors, assisted by Hotpoint field men, are holding a series of one-day meetings to present the new program to dealers.

A low-cost kit of promotional and prospecting materials as well as new sales aids have been developed for the program. A consumer incentive plan dramatized by a lock and key promotion is also part of the program.

A padlocked appliance display in a window or on the floor serves as a traffic builder, with the appliance awarded as a prize to the holder of the right key.

The incentive plan also is designed to arouse interest among direct mail prospects and gives the salesman a good "door-opener." Keys will be distributed by direct mail, delivered at the home by the salesman, or handed out in the store.

A booklet called "10,000 Marching Men" tells how to make neighborhood calls in dealers' trading areas. Purpose of the calls is to investigate local prospects and invite them to visit the dealer's store.

The booklet recommends a brief introductory call, and then leaving an instructive souvenir such as a recipe guide or calendar. While this is not the time to try to sell, the visit leaves a good impression, the booklet points out, and a follow-up letter should be sent to prospects who do not come into the store.

A 30-page instruction booklet explains how to make the best use of the telephone to build sales. It lists six typical telephone conversations for developing prospects in the dealer's trading area.

Another method of building sales and prospects is a "favors for neighbors" plan that is also part of the Magic Key Program. Customers who have already purchased an appliance are given a special booklet showing prizes that will be awarded when a sale is closed with a recommended prospect. The booklet has pictures and specifications of the full line of appliances.

The summer program follows the company's "Two-Millionth Range" promotion and can be conducted independently or as a supplement to other sales activities.

In developing prospects, dealers should qualify those in their territory by specific wants, the company said. In this way, it was pointed out, the dealer can concentrate on the sale of an appliance he knows the prospect needs.

Van Sciver Gets Liquid Carbonic Field Post

CHICAGO—Liquid Carbonic Corp. here has announced the appointment of Grover L. Van Sciver as eastern regional manager of the Fountain division.

G. L. Van Sciver

Van Sciver started with Liquid in 1929 as credit manager of the Philadelphia branch. He has been a salesman for Liquid's soda fountain line; Philadelphia sales manager of Gas, Ice, and Extracts; northwest regional manager of the Soda Fountain division; and general purchasing agent.

It was also announced that J. L. Odendhal, eastern region office manager, has been appointed assistant regional manager.

10-20% Cut In Production Seen by Wilson, of G-E

NEW YORK CITY—By the end of the year, industry production of consumer goods will be cut back at least 20% from last year's level and producers goods about 10%, Charles E. Wilson, president of the General Electric Co., estimated recently.

Wilson said he based his estimate on the downward trend in major appliances. He offered the estimate while announcing that General Electric's earnings for the first half of 1949 declined 15% from 1948 figures.

The firm earned $46,552,842, or $1.61 per common share, for the first half year as compared with $54,602,339, or $1.89 per common share, for the 1948 period.

Wilson explained that the drop in earnings was caused principally by "reductions in selling prices and from adverse effect on our margins of frequent adjustments made in our production schedules in an attempt to maintain a reasonable balance between output and the erratic, but generally reduced, demand for certain products."

PROCESSED ICE

Do Mechanical Refrigerator Owers Use It? Survey Asks

WASHINGTON, D. C.—Are owners of mechanical domestic refrigerators prospective customers for the iceman who delivers processed ice?

The answer to that question is currently being sought in a survey conducted by the National Association of Ice Industries and about 50 member companies all over the United States.

The survey seeks to learn the nature of the processed ice market among mechanical refrigerator owners, the type of ice needed, the purpose for which it is to be used, the type of service required, the buying habits of customers, and other related facts.

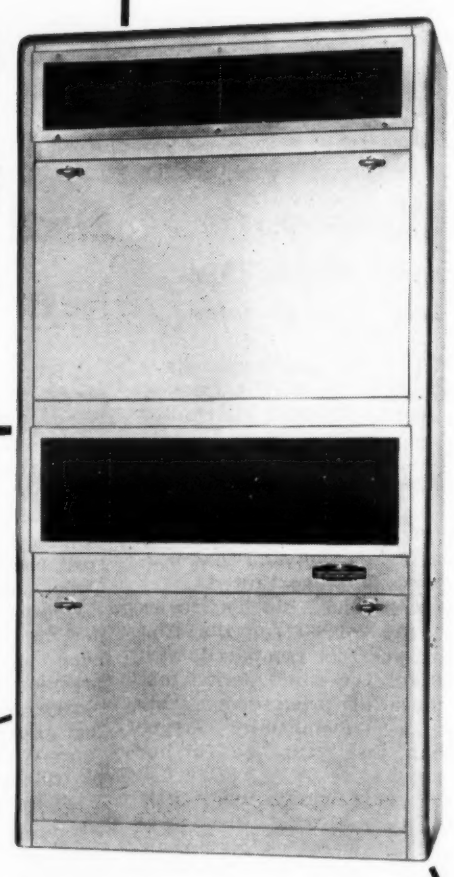
Each company is conducting the survey in its particular area, but is using uniform questionnaires. The research and personnel training and marketing committees of the association will coordinate and evaluate the data gathered, making it available for use in planning industry sales programs, it was revealed.

Spot surveys in various parts of the country have shown that owners of mechanical refrigerators can become profitable ice customers, it was reported.

At the same time, E. G. Vail, secretary of the National Association of Ice Refrigerator Manufacturers, has announced that he is conducting a survey to determine the reason for declining sales of ice refrigerators by ice companies.

Manufacturers are concerned, he indicated, for where there was a great demand for a 100-lb. ice refrigerator a few years ago, there is practically no demand for it today. They want to know why.

Why Lipman is a PROFITABLE LINE to sell



Lipman Packaged Air Conditioner, available in 3, 5 and 7½ h.p. sizes.

ESTABLISHED ACCEPTANCE — Lipman has been well known for 30 years.

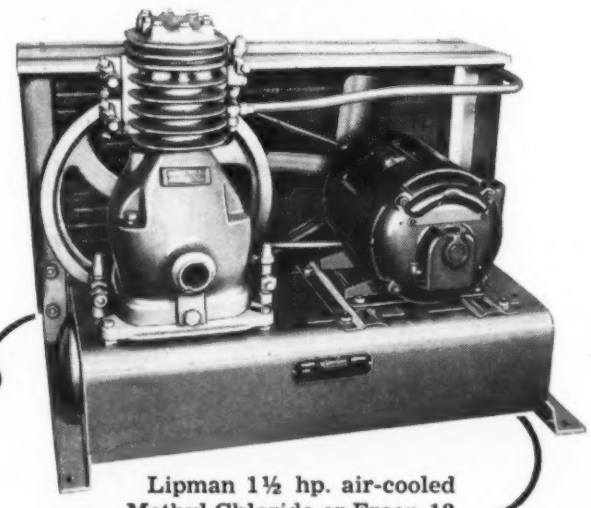
TWO COMPLETE LINES — Lipman refrigeration machines available in ¼ thru 40 hp. — air and water cooled — with ammonia, Freon-12 and methyl chloride refrigerants. The air conditioning line includes self-contained and remote units for commercial uses.

WELL ENGINEERED, units are moderate speed, heavy duty, rugged — perform well, stand up in service.

PROMPT DELIVERY possible on most units.

SALES HELPS consist of national advertising — useful sales literature — newspaper ads you can use to fit your needs—engineering service to help you . . . *real cooperation right down the line!*

Get complete information on handling the profitable Lipman line — call, wire or write today.



Lipman 1½ hp. air-cooled Methyl Chloride or Freon-12 Condensing Unit.

GENERAL REFRIGERATION
DIVISION
YATES-AMERICAN MACHINE CO. Beloit, Wisconsin

Lipman REFRIGERATION and AIR CONDITIONING

HOTEL STRAND

ATLANTIC CITY'S HOTEL of DISTINCTION

Devoted to the wishes of a discriminating clientele and catering to their every want and embracing all the advantages of a delightful boardwalk hotel.

Spacious Colorful Lounges—Sun Tan Decks atop—Open and inclosed Solaria—Salt Water Baths in rooms —Garage on premises. Courteous atmosphere throughout.

When in Atlantic City visit the

FAMOUS FIESTA LOUNGE
RENOWNED FOR FINE FOOD

OPEN ALL YEAR
Under Ownership Management

Exclusive Penna. Ave. and Boardwalk

Wall WIRE PRODUCTS COMPANY
Manufactures of...
REFRIGERATOR SHELVES · STAMPINGS
FORMED AND WELDED PRODUCTS

Symbol of Quality in a Refrigerator: Stainless Steel Shelves made by WALL.

WALL WIRE PRODUCTS COMPANY Plymouth, Michigan

By POPULAR DEMAND ANOTHER PRODUCTION

OF

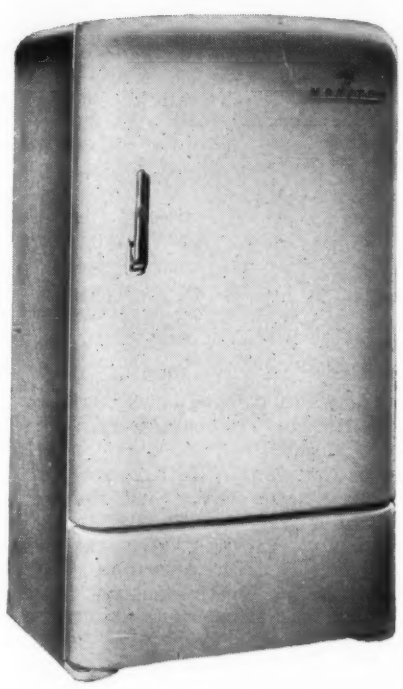
1949 MONITOR R8

(Built to Retail at $239.50)

NOW READY FOR IMMEDIATE SHIPMENT

A Brand New Model--Not A Last Year's Closeout!

27 SELLING FEATURES



• 8.02 cubic feet total interior volume. • 14.33 square feet ot shelf and floor area (4 shelves). • Crisper drawer of acid-resisting porcelain, 632 cubic inches with "Gruvex" glass cover. • Extra large meatkeeper of tempered glass—245 cubic inches. • Frozen food compartment of anodized aluminum—1082 cubic inches capacity. • 35 ice cubes in 2 trays, including 1 plastic tray for easy cube removal. • Full-covering, decorative aluminum freezer compartment door with spring hinges. • Exterior finish is two coats of duPont's Hi-Bake refrigerator Dulux over Bonderized furniture steel both coats baked on individually. • Beautiful "MONITOR" nameplate and "BOOTS BOY" emblem. • Interior—duPont's new type enamel—chipproof, shock-absorbant and abrasion-resistant over zinc-coated and Bonderized steel. • Interior door panel of Panelyte moulded plastic finished in two coats of duPont's enamel—mounted on spring clips instead of screws to eliminate distortion—breather holes in panel to assure that door insulation remains dry. • Breaker strip throat mouldings are white, extruded Ethyl cellulose—the same color all the way through—shock-proof and chip-proof, assuring freedom from damage or abrasion. • Feather-touch latch—positive action with two-way adjustable strike of chrome-plated brass casting. • Hinges adjustable four ways—in and out, up and down, and are externally mounted to eliminate a source of infiltration of moisture-laden air. • Food compartment door has internal turnbuckle adjustment to assure perfect continuing fit—adjustment accessible from outside. • Door handle—heavy die casting chrome plated. • Adjustable glides for uneven floors. • Super-silent, hermetically-sealed refrigeration unit internally sprung ⅛ h.p., by Tecumseh, with static condenser—a Scotchman's dream for economy. • Safe Freon F-12 refrigerant. • "Low side" refrigerant drier in system. • 23-Point cold control by Cutler-Hammer. • Automatic interior light. • Underwriters' Laboratory approved. • Insulation—Fiberglas throughout. • Fibre bottom—sound absorbent for super-quiet operation—Treated for moisture resistance and vapor sealed. • Built like a safe—cabinet and door are of 20-gauge furniture steel, reinforced with heavy 14 gauge structural and base members all electrically welded into one piece. Cabinet is one-piece "wraparound" shell with full covering doors. • Takes less space than a prewar 5—Width 29 inches, Height 54½ inches, Depth 25 inches. Shipping Weight: 270 lbs.

1 OR 1,000

$135.00 each net

F.O.B. Greenville, Michigan with *Full Carload Freight Allowed To Destination* in continental United States. Price includes Federal Excise Tax and one year standard warranty plus four additional years protection on sealed unit. Packed for Domestic Shipment—Export crating extra.

SET YOUR OWN RETAIL PRICE

TERMS: Sight draft—order bill of lading. Be sure to advise shipping instructions and name and address of bank on which draft is to be drawn.

POOL CARS: Stopover cars may be arranged in conformance with our standard unit carloading of four units of 18 each plus 12 on floor in center of car—total 84 per car.

NOTE: This offer is subject to change or withdrawal at any time without notice. Deliveries are subject to existing stocks or accumulation of orders for total quantities to justify subsequent minimum production runs. If shipment cannot be made within 30 days after receipt of order, deposits and orders will be returned. You may specify time limit on your order to apply if immediate shipment cannot be made. We reserve the right to refuse any order or to grant exclusive dealerships for limited periods in any area.

Send Order To and Make Checks Payable to:

RANNEY REFRIGERATOR COMPANY

Three Generations of Better Refrigeration

GREENVILLE, MICHIGAN

Changes at Servel--

(Concluded from Page 1, Column 2)

named assistant general sales manager on special assignment. Wickman will give special emphasis to Servel's liquefied petroleum gas appliance sales program.

Under J. C. Kellner, Jr. the new service section will be known as the Appliance Service Department. Emil Nensel, formerly manager of the water heater service department, will be assistant manager of the Appliance Service Department.

L. D. Eastmead, who has been the company's district manager in Georgia, Alabama, and Tennessee, has succeeded O. F. Keune as regional manager in the southeastern area. R. G. Williamson, formerly a dealer manager in the state of Florida for Servel, has been named district manager for Georgia, Alabama, and Tennessee.

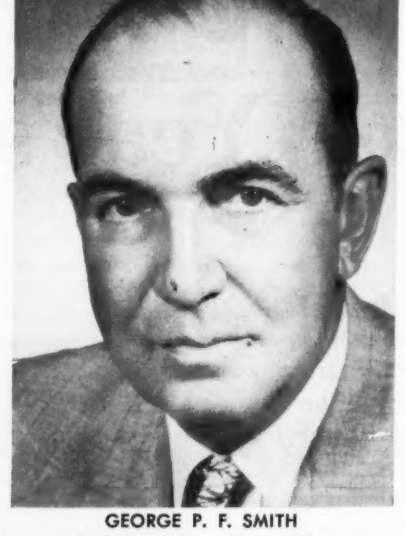
T. O. Hard, C. A. Spiegel, and J. T. Mooney, formerly members of the Household Refrigerator Sales Department, which has been discontinued, have been assigned to Keune's staff for specialized field sales activity. Also appointed to this specialized sales pool are D. P. Finney, Robert Clark, L. W. Hadley, and E. C. Whitcomb, who are all formerly dealer managers for Servel.

A. J. Gilbreath, who was also a former dealer manager for Servel, has been transferred to the company's International Division as manager of air conditioning sales.

Kennedy, Ex-Contractor, Dies

NEW ROCHELLE, N. Y.—Samuel Kennedy, a retired heating and air conditioning contractor, died recently in his home here at the age of 79.

HOWARD E. BLOOD
Chairman of Bd., Norge Div.



GEORGE P. F. SMITH
Pres.-Gen. Mgr., Norge Div.

Norge Appointments--

(Concluded from Page 1, Column 4)

Blood has been president of Detroit Gear since 1927, the same year in which he formed and became head of the Norge corporation which was organized to manufacture electric refrigerators. The two companies became affiliated with Borg-Warner in 1929.

Smith joined the Borg-Warner organization in September, 1938, as general manager of the Marbon division, in Gary, Ind., and later became assistant to Shallberg.

Underwood comes to Norge after a long experience as an executive and merchandiser. He was at one time in charge of the Great Western Stores and of their plant which manufactured gas ranges. He directed Montgomery Ward's gas stove division for some eight years, was president of Manning, Bowman & Co. and president of the Personal Products division of Johnson & Johnson.

June Nashville Appliance Sales Fail To Match Record for May

NASHVILLE, Tenn. — Local sales of four major appliances—refrigerators, ranges, water heaters, and freezers—totaled 2,058 units in June, somewhat better than the 1,916 units sold in June last year but below the record-breaking total of 2,416 units chalked up in May, the Nashville Electric Service, reported recently.

The June figures, however, were reported by only 66 appliance dealers while 89 reported in May and 79 in June, 1948. Refrigerators, with 1,049 units sold, dominated the picture.

Volume of Home Freezers Sold In May Reflect a Decrease of 6%

(As reported to National Electrical Manufacturers Association.)

Electric Farm and Home Freezers—Complete—Sales by Sizes—Units

Farm and home freezers complete with high and low side and cabinet, where 50% or more of the net cabinet capacity is designed for the freezing and/or storage of frozen food.

MAY (28 Companies)

	Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1.	4.9 cu. ft. and under..	814	....	143	957
2.	5.0 to 6.9 cu. ft.....	2,348	....	30	2,378
3.	7.0 to 8.9 cu. ft.....	4,027	....	17	4,044
4.	9.0 to 10.9 cu. ft.....	1,710	....	....	1,710
5.	11.0 to 12.9 cu. ft....	3,500	....	5	3,505
6.	13.0 to 16.9 cu. ft....	4,686	....	6	4,692
7.	17.0 to 20.9 cu. ft....	2,518	....	2	2,520
8.	21.0 to 29.9 cu. ft....	75	....	....	75
9.	30.0 to 39.9 cu. ft....	252	....	....	252
10.	40.0 to 49.9 cu. ft....	....	....	....	....
11.	50.0 to 59.9 cu. ft....	....	....	....	....
12.	60.0 cu. ft. and over..	6	....	....	6
	Total—All Models	**19,936**	....	**203**	**20,139**
13.	Total Upright Models* (Included in above)	1,297	....	2	1,299

FIRST FIVE MONTHS (28-31 Companies)

	Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1.	4.9 cu. ft. and under..	6,822	....	731	7,553
2.	5.0 to 6.9 cu. ft.....	15,365	....	407	15,772
3.	7.0 to 8.9 cu. ft.....	26,502	1	392	26,895
4.	9.0 to 10.9 cu. ft.....	6,673	....	21	6,694
5.	11.0 to 12.9 cu. ft....	25,934	....	80	26,014
6.	13.0 to 16.9 cu. ft....	20,677	....	50	20,727
7.	17.0 to 20.9 cu. ft....	14,379	....	38	14,417
8.	21.0 to 29.9 cu. ft....	842	....	....	842
9.	30.0 to 39.9 cu. ft....	1,285	....	....	1,285
10.	40.0 to 49.9 cu. ft....	7	....	....	7
11.	50.0 to 59.9 cu. ft....	1	....	....	1
12.	60.0 cu. ft. and over..	22	....	....	22
	Total—All Models	**118,509**	**1**	**1,719**	**120,229**
13.	Total Upright Models* (Included in above)	6,772	....	16	6,788

*Data shown are for the cumulative first five months, 1949.

Participating companies: AVCO Mfg. Corp.; August G. Barkow Mfg. Co.; Beatty Mfg. Co.; Ben-Hur Mfg. Co.; Brewer Titchener Corp.; Carrier Corp.; The Coolerator Co.; Deepfreeze Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint, Inc.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; Masterfreez Home Locker Mfg. Co.; The Maytag Co.; Norge Div., Borg-Warner Corp.; Oregon Refrigerator Co.; Portable Elevator Mfg. Co.; Revco, Inc.; Sanitary Refrigerator Co.; Schaefer, Inc.; Emil Steinhorst & Sons, Inc.; Sub-Zero Freezer Co., Inc.; Victor Products Corp.; Westinghouse Electric Corp. (In 5-1-49); Wilson Cabinet Co., Inc.; Whiting Corp.; Ace Cabinet Corp. (Out 2-1-49); R. H. Bishop Co. (Out 1-1-49); Chapman Refr. Sales Co. (Out 1-1-49); General Refrigerator Corp. (Out 3-1-49); Seeger Refrigerator Co. (Out 3-1-49); Stoddard Mfg. Co. (Out 4-1-49).

G-E Dishwasher Model--

(Concluded from Page 1, Column 4)

the machine. The dishwasher is claimed to use less than 5 gals. of hot water in the complete cycle, which includes a five-minute wash and two rinses.

He said all the user has to do is connect the rubber inlet hose to the hot water faucet and plug in the electric cord.

"The drain hose is attached to the inlet hose and automatically centers over the sink when the inlet is attached," he pointed out. "When not in use, the dishwasher rolls into any out-of-the-way corner."

Other features include white porcelain enamel finish on the tub, baked-on enamel finish on the skirt and top-opening lid, rubber-tired coasters, and ball-bearing mountings.

The machine has been introduced at meetings in such cities as St. Louis (where it was selling at $169.95), Shreveport, La., New Orleans, and Los Angeles. It is believed that the dishwasher will be unveiled in Detroit the latter part of August.

Robt. Welsh Is Connor Ad Mgr.

NEW YORK, N. Y. — Robert D. Welsh, formerly assistant sales promotion manager of the Thermoid Co., has been appointed advertising manager of W. B. Connor Engineering Corp., manufacturer of activated carbon air purification equipment and ceiling air diffusers.

Crosley Plant Cited for Accident-Free Work Period

RICHMOND, Ind. — Employes of the Richmond refrigerator plant of Crosley Div., Avco Mfg. Corp., were honored recently for completion of more than 1,000,000 man hours worked without a lost-time accident.

In a ceremony on company grounds, the 1,500 assembled employes were commended by Robert Duncan works manager; W. Dean Keefer, vice president of the American Motorists Insurance Co., compensation insurance carrier for the plant; and C. V. Ricker, director of industrial relations, who presided.

Duncan attributed the safety record to four principal factors: Personal interest and contact, holding regular supervisory meetings at which entire emphasis is placed on safety, installation of new and modern safety devices, and thorough, regular inspection of all types of safety equipment.

Keefer, who presented a plaque commemorating the accomplishment to Duncan, said an average of only four industrial companies out of 1,000 equal the Crosley record yearly.

THE NEW SPORLAN

FLOW MASTER ELEMENT

makes Maximum Evaporator Capacity a reality on every Air Conditioning Installation at no extra cost to you!

The time honored dragon "Hunting" that has plagued engineers for many years on air conditioning and large capacity high temperature refrigeration applications has finally had its teeth pulled; thanks to Sporlan's new FLOW MASTER Element.

In spite of careful design, hunting is inherent in many applications due to the physical dimensions of the evaporator, and the relationship between the evaporator, compressor and expansion valve.

Now your worries over hunting that causes alternately flooded and starved evaporators are over!

How does the new Sporlan FLOW MASTER Element do it? Through the use of Sporlan Thermal Ballast (*Patent applied for*).

How do you get them at no extra cost?... Just be sure to order Sporlan valves with Type G Thermostatic elements. All Sporlan Type G elements are now standard equipped with this amazing new feature.

Remember... Just as you have reduced hunting for many years on all refrigeration installations below 35° F. by using Sporlan Type C and Z charges, you can now be sure of maximum evaporator capacities with negligible hunting on all air conditioning or large capacity high temperature refrigeration applications when you install Sporlan Thermostatic Expansion Valves with the new FLOW MASTER element.

SPORLAN

Get Peak Performance on All Installations...

Order Sporlan throughout from your wholesaler today!

SPORLAN VALVE COMPANY
7525 SUSSEX AVENUE • ST. LOUIS 17, MISSOURI

Genuine Joe says... "Stock WAGNER STANDARD ROTORS"

A stock of genuine Wagner interchangeable replacement armatures makes rotor replacement a simple 1-2-3 job... and the exclusive "tell-all" label shows the interchangeability of rotors within a given horsepower on Wagner motors. MS 49-7

Wagner Electric Corporation
6471 PLYMOUTH AVENUE, SAINT LOUIS 14, MO., U. S. A.

for draft and bottle beverage coolers...

IDEAL Speed-Freeze PRODUCTS

IDEAL COOLER CORPORATION
2953 EASTON AVE., ST. LOUIS 6, MO.

Heat Pump Installation Warms 12-Story Oregon Building for Half Of Coal Cost and Attains Fantastic C. O. P. of 22.6, ASHVE Hears

MINNEAPOLIS — Coefficients of performance so high (22.6) that they seem fantastic have been calculated for the heat pump installation in the Equitable Bldg. at Portland, Ore., after the first year of operation, members of the American Society of Heating and Ventilating Engineers were informed at their semi-annual meeting the Nicollet hotel here.

In addition, the heat pump heated the building during one of Oregon's worst winters at less than one half the cost of coal-heating, it was reported.

That peak c.o.p. was for compressors only, giving them credit for over-all system efficiency obtained through recovery of by-product heat, reported J. Donald Kroeker, consulting engineer; Ray C. Chewning of Kroeker's office; and Charles E. Graham, engineer of the Equitable Bldg.

Calculating the c.o.p. for compressors in addition to deep well pumps and settling tank pumps, the figure was 19.2. If no credit were given for heat recovery and heating with waste chilled water, the c.o.p. of the compressors only is 4.9; and of compressors and pumps, 4.2.

The largest building in the United States heated and cooled (year-round air conditioning) with a heat pump, the Equitable Bldg. is a 12-story rental office building with a plan area of 100 by 200 ft. up to the second floor, 60 by 200 ft. for the third through twelfth floors, a smaller thirteenth floor, and two penthouse levels housing air conditioning and elevator equipment. The exterior is almost entirely constructed of double-pane windows designed to cut glass heat loss by 50% and heat gain by 40%.

Four diffusion-type, centrifugal water-chilling machines comprise the heat pump which air conditions the building all year-round with an air system, well water being the heat source.

In operating the system, some heat pump capacity was provided during the night following afternoon temperatures of 55° F. or less to reduce the morning pick-up load. According to the authors, this offers two advantages:

"1. The heat pump, being less efficient at high condenser temperatures, could be operated at better efficiency during the pick-up period.

"2. The pick-up period was reduced, thereby avoiding creation of an electrical demand which would be superimposed on the normal building demand and result in a demand charge under the electric tariff applicable."

Studies made during the first year of operation also indicated that less water was used as a heat source than had been anticipated, and that power requirements ran 5.3% less than had been estimated.

As yet, costs of operating Equitable Bldg. heat pump system have not been fully determined, but the authors of the paper state, "it is quite certain that the heating cost will be materially less than the $0.46 per million B.t.u. orginally estimated."

Comparative figures are 10,000 B.t.u. for a penny's worth of coal and 8,000 B.t.u. for one cent's worth of oil.

The authors also made several interesting observations regarding heat pumps:

1. Since the heat source normally adapted will probably be well or surface water, water analyses should be made to determine what treatment may be necessary to prevent possible corrosive action.

2. A primary cause of corrosion with water is the presence of oxygen. Provision should be made to keep at a minimum the amount of air picked up by water.

3. Heat recovery with heat pump systems and use of waste water to pre-condition incoming ventilation air are both feasible.

4. The best possible automatic control should be provided for economical operation.

5. In automatic change of water circuits use care in arranging opening and closing of valves to prevent damage from water shock or hammer.

6. Sufficient recording instruments and proper controls should be installed so the system operator can keep costs at a minimum.

7. The above-average operator with an analytical mind can save $150 to $200 a month in running a system of this size.

Brazil Ties Import Permits To Exchange Budget Quotas

WASHINGTON, D. C.—New Brazilian import licensing regulations covering hard currency stipulate that all applications presented up to June 30 and not yet acted upon will be filed without action, according to the Office of International Trade, U. S. Department of Commerce.

License applications entered on and after July 1 will be examined if they cover commodities included in a "positive" list to be published in the Brazilian *Diario Oficial,* the OIT said.

"Importers are requested to present applications up to Aug. 10 for one quarter's requirements of commodities included in the positive list," the agency stated.

"Requests for extending the valid date of outstanding licenses will be considered, regardless of the commodity, if exchange has already been granted for payment, or if products are included in the positive list and exchange application to open credit has already been registered by the Bank of Brazil. In both cases, reasons why import licenses has not yet been used and the probable date of shipment must be given.

"The expressed purpose of the new procedure is to tie in import licensing with exchange budget quotas."

Brown Plans 2 Courses On Industrial Instruments

PHILADELPHIA — A comprehensive 13-week course and two five-week courses have been scheduled for the period from Aug. 15 to Dec. 2 by Brown Training School of Industrial Instrumentation, Brown Instruments division of Minneapolis-Honeywell.

As in the past, the courses are designed primarily for customers, in order that they may obtain maximum benefit from their process control equipment, said M. J. Ladden, chief instructor.

The industrial instrument maintenance and repair courses will cover millivoltmeter type pyrometers, mechanical potentiometer pyrometers, continuous balance electronic type potentiometers, electrically operated automatic control, flow meters, thermometers, pressure gauges, hygrometers, air operated automatic control Moist-o-Graphs, tachometers, resistant thermometers, CO_2 and analygraph.

Baker Vacation Will Close Plant from Aug. 13 to 22

SOUTH WINDHAM, Me. — Baker Refrigeration Corp. has announced that its plant here will be closed for the annual vacation from Aug. 13 until Aug. 22.

Distributors have been requested to anticipate requirements as far in advance as possible. The company will retain a skeleton crew to handle emergency orders. General sales will not be affected.

Philco Handbook Covers Air Conditioner Service

PHILADELPHIA—Publication of a new handbook on servicing the new Philco air conditioner models 61-D, 61-DL, 76-E, 76-EL, and 91-CE has been announced by Ed Barth, manager of Philco Corp.'s refrigerator division service.

The handbook is said to be complete, covering all details from uncrating to cabinet retouching and refinishing. All specifications are accompanied by drawings and illustrations showing the best methods for the important initial installation.

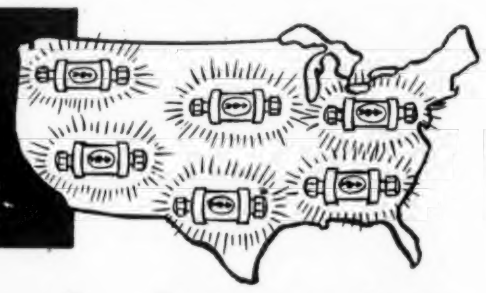
The manual deals separately with the air conditioner's three components: the electrical system, the refrigerator system, and the air flow system. The section on servicing the electrical system covers line-voltage checks, motor compressor types, relay and capacitor checks, and all motor tests.

That on the refrigerator system gives information on taking wet and dry bulb temperatures, checking the evaporator air inlet temperature, how to replace the sealed refrigerator system, and proper procedure for handling returned sealed units. The section on the air flow system explains air flow paths in the conditioner and the methods of condensate disposal.

Copeland Declares Dividend

SIDNEY, Ohio—Copeland Refrigeration Corp. has declared a dividend of 10 cents on the common stock, payable Sept. 10 to stock of record Aug. 22.

TRIED and APPROVED in every section!



Fast — safe — thorough — low cost drying of the Revolutionary NEW

McINTIRE D-C FILTER DRIER

DOUBLE CAPACITY. D-C Filter Driers give you *twice* the moisture absorbency of conventional driers, size for size, under refrigeration conditions. Stay on the line longer, have reserve capacity for emergencies. Save call-backs, save cost.

EASY INSTALLATION ON LIQUID LINE. Can be installed right after receiver. Dry effectively at refrigerant temperatures up to 150° F.

FIRST PASS DRYING. Pre-screened, dust-free, granular desiccant absorbs and holds all moisture on contact. A single pass of refrigerant is dehydrated to -60° dew point. Wet systems restored to immediate operation. No repeated warming of valves or cycling necessary.

PROGRESSIVE FILTERING. Large and efficient combined compression member and filtering media accumulate all fines—assuring clean systems, with free flow.

TRY D-C FILTER DRIERS! Your wholesaler has them. Literature on request.

MADE by the MAKERS of OFN MOISTURE INDICATORS and MOISTURE CONTROL UNITS

McINTIRE CONNECTOR COMPANY
269 Jefferson St., Newark 5, N. J.

Hundreds of Marvair Heat Pumps Performing Perfectly

Write for LIBERAL DISTRIBUTOR AND DEALER PLANS NOW
Get the sales rights for MARVAIR in your territory. Write today for full information concerning our liberal distributor and dealer program. No obligation.

Nature's Way to Heat and Cool...

★

MARVAIR pumps heat from the earth in the winter . . . pumps heat into the earth in the summer. Automatically "Air Conditions" all year 'round. MARVAIR heats, cools, and filters air; controls humidity.

★

MARVAIR is safe. No products of combustion; no chance for explosion or fire. No dirt, smoke, ashes, dust or odors.

★

MARVAIR is simple to install. Compact unit fits in basement or utility room. MARVAIR is available in sizes from 3 to 30 ton capacities to fit the requirements of almost any structure MARVAIR is powered by either electricity or gas —the latter utilizing a conventional internal combustion engine with natural or bottled gas as fuel.

● Thousands already are enjoying carefree, year 'round **MARVAIR** climate conditioning. In many places obsolete equipment is coming out—and **MARVAIR** is going in. Installation costs compare with those of any fine heating and cooling system. Operating costs generally are not higher, and are often less.

Dealers report great interest in **MARVAIR** for homes, offices, churches, theatres, super markets and other buildings of moderate size. Installations are greatly publicized . . . become the center of interest for miles around.

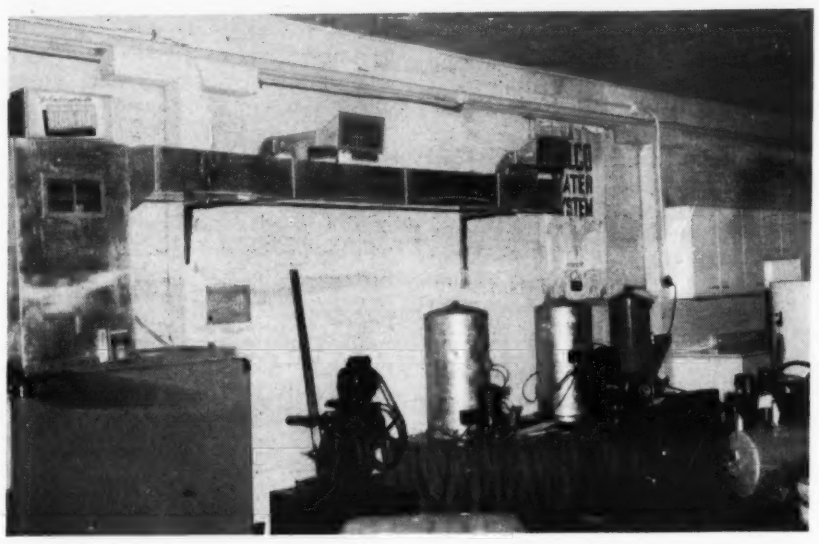
Offer this revolutionary heating unit in YOUR territory . . . begin now to qualify for those extra profits! Write for full dealer or distributor particulars. **MARVAIR** is in demand in your territory—today! ACT NOW!

MUNCIE GEAR WORKS, INC.
MUNCIE, INDIANA

Marvair

Stainless Steel Ductwork Demonstrator Unit Worth 10,000 Sales Words to A.C. Dealer

Model Also Shows Workings of 2 Heating Units, 5 Outlet Grilles



DENVER—One of the most efficient "selling tools" ever developed by Snodgrass & Smith, automatic heating dealers here, is a stainless steel "sample ductwork installation" setup on the left wall of the firm's showroom.

Kenneth Snodgrass and Clarence Smith, partners who have headed the Denver heating-air conditioning firm since 1927, are firm subscribers to the theory that "a picture is worth a thousand words—and an actual heating installation is worth 10,000 words."

Therefore, when recently remodeling a neighborhood shop into a complete heating and air conditioning equipment showroom, one of the prime steps was the construction of the stainless steel ductwork system, which illustrates five types of outlet grilles and two types of automatic heat simultaneously.

The stainless steel duct is 22 ft. long, and is connected to a Delco gas-burning furnace at the left end.

Along the length of the ductwork are 5 separate varieties of outlets, including flat, louvered wall types, slender, curved varieties for narrow spaces, high output grid varieties, and shuttered models for use in domestic installations.

A series of dampers through the ductwork makes it possible to shut off any four of the five outlets to demonstrate a specific model at full efficiency.

Connected to the same system is a suspended overhead type gas heater, which is vented into the same 6-in. vent pipe connected to the automatic gas furnace. Both heating units discharge into an 8-in. stack going through the ceiling to the roof. Either type of heating equipment may be switched on independently, according to Smith.

During the summer months, it is a simple matter to remove the automatic furnace and subsitute a package air conditioner to any desired size to similarly demonstrate the same ductwork, outlet grilles, etc., for summer comfort cooling, he noted.

The demonstration units was constructed by the Snodgrass-Smith installation crew, to specifications drawn up by the partners, after studying various types of heating and air conditioning installations here.

Handling Frigidaire air conditioning and Delco heating equipment, Snodgrass & Smith have extended selling operations considerably during the past two years, "branching out" from the domestic homeowner field into small commercial shops.

"The small retail store is proving the ideal market for both summer comfort air conditioning and package-type heating installations," Smith pointed out.

"Largely due to the current need for customer satisfaction, with less 'loose money' floating about, most retailers have recognized the fact that they must bend over backwards to give customers maximum comfort while shopping in their stores.

"This profit motive is moving many such retailers to install package air conditioning and better heating systems. The fact that a well-heated, or well air conditioned shop does away with soilage of merchandise is counting heavily as well. Our wall demonstration unit has proven ideal in selling this market."

The company has two factory-trained "sales-engineers," who are handling the bulk of sales.

SWIFT
Pulleys and Fan Blades
Industrial & Variable Speed Pulleys
Standard equipment with most refrigeration unit manufacturers.
Sold By All Better Jobbers
Swift Manufacturing, Inc.
1455 E. Nine Mile Road
Hazel Park, Mich.

U. of Texas Seeks Ways Owners of Small Homes Can Beat Heat, Humidity

AUSTIN, Tex. — A research project to bring relief to the small-home owner in the south from summer heat has been undertaken at the University of Texas Bureau of Engineering Research under the direction of Engineering Dean W. R. Woolrich.

Dean Woolrich said goal of the project will be better livability through relief from heat and high humidity. He said University engineers will search for a type of wall construction that will give the most satisfactory living conditions, supplemented by natural ventilation and mechanical aids such as attic fans and sprayed roofs.

Dr. F. E. Giesecke, past president of the American Society of Heating and Ventilating Engineers and former faculty member, together with University Engineering Professors V. L. Doughtie and Wayne E. Long, will test livability features of the housing research.

Another phase of the project will be the study of foundations under supervision of Raymond F. Dawson, Bureau of Engineering Research associate director.

To further the project, six homes, five brick and one frame, will be built in the same area. All will have identical floor plans but will differ otherwise. Temperature and humidity tests will be run without occupants.

Torrington Buys Burden Co. To Promote Sales In Southwest

TORRINGTON, Conn. — To promote sales of company products in the southwestern United States, the Torrington Mfg. Co. here has purchased the assets and business of the Burden Co. of Los Angeles, S. W. Farnsworth, president, has announced.

Farnsworth declared that the Burden division has been made into a wholly owned subsidiary.

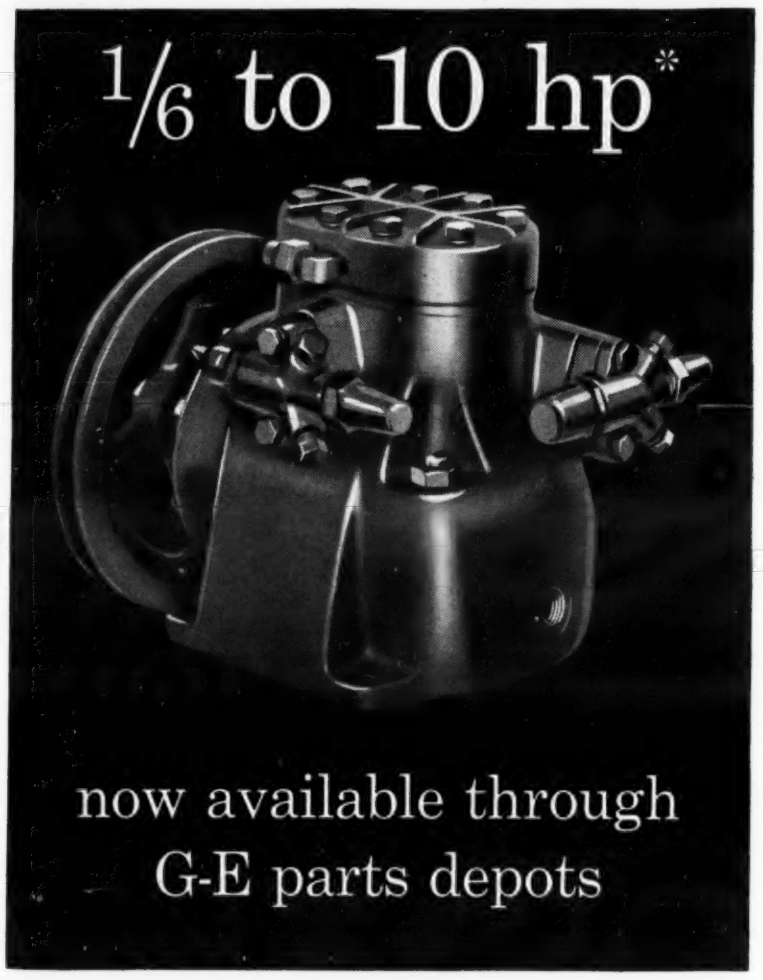
SERVICE ENGINEERS! DEALERS! Cash in on the compressor replacement market!

GE

COMPRESSOR BODIES

FIT MOST MAKES of condensing units

- Fit most brands of refrigeration or air conditioning equipment.
- Compact, easy to install.
- Shipped complete with flywheel and service valves.



New life in old refrigeration equipment...when you replace the compressor with a new General Electric high-capacity compressor body. You can *stretch* the lifetime of the equipment...and you'll get real G-E dependability and economy...*at low cost!* Here's how:

Many times a condensing unit that's old and inefficient can still do a satisfactory job if you replace the compressor. And, of course, simple compressor replacement is comparatively inexpensive. *For best results*, be sure to recommend one of the new, top-quality G-E compressor bodies. They're easy to install—they fit most condensing units and types of equipment. And don't forget—it's easier to sell your customer on a replacement job...when he knows he's getting *General Electric* quality and dependability. G-E compressor body prices are *right*. Check them today!

Get your FREE copy
...G-E Compressor Body Specifications (1/6-10 hp) plus Belt, Pulley Easy Selection Table

GENERAL ELECTRIC COMPANY, Air Conditioning Department,
Section AC-18, Bloomfield, New Jersey

Please send me your new specification sheet on G-E compressor bodies including belt and pulley selection. ☐

Please send me condensed catalogs on G-E condensing units and replacement parts. ☐

I am a ☐ service engineer ☐ dealer ☐ contractor.

Name.....

Company.....

Address.....

City.....Zone.....State.....

CHECK THESE G-E COMPRESSOR FEATURES!

Dependability! High quality materials throughout
Quiet Operation! Counterbalanced crankshaft
Sure Lubrication Check! Oil sight glass
Low Maintenance, Fewer Leaks! Special G-E balanced bellows shaft seal
Low Power Costs! G-E high volumetric efficiency

NOW YOU CAN BUY the compressors that have helped famous G-E condensing units build up an outstanding record for long life and rugged dependability! More than a million G-E commercial units in service today!

mail this coupon TODAY!

Southern Hospital To Use Carrier's New Absorption Unit for Air Cooling System

GREENWOOD, S. C.—Two modern developments in air conditioning—the Carrier absorption refrigerating machine and "Conduit Weathermaster System"—will be combined in a year-round air conditioning system in the new Self Memorial hospital now under construction here, according to plans announced by Carrier Corp.

The new hospital, an ultra-modern, five-story structure, with a penthouse on the roof, is being constructed, at no cost to the community, by The Self Foundation.

Recently announced publicly after more than eight years of research and development, the absorption machine employs steam for cooling purposes. It uses plain water as a refrigerant and a simple salt as an absorbent, and has no moving parts except for small pumps.

The Carrier Conduit Weathermaster System, which provides individual room control of temperature and humidity, is to serve all patient rooms. In addition, there will be separate air conditioning systems for operating suites, the nursery, delivery rooms, the cafeteria, and miscellaneous other rooms wherein it is important to control temperature and humidity for storage purposes.

All but the cafeteria equipment will be served by chilled water from the absorption refrigerating machine for cooling purposes, and warm water from the hospital steam plant for heating.

On the conduit system each room unit, 215 in all, will be individually controlled by a manually-operated dial. In the other systems, with conventional duct-type air distribution, there will be automatic controls to maintain temperature and humidity at constant levels.

The cafeteria will be served by a "Commercial Weathermaker," a self-contained air conditioning unit of 15-ton capacity. This unit will have both cooling and heating coils for year-round control. The cafeteria air distribution will also be through ducts.

All air for rooms of patients, operating suites, the nursery, and the delivery room will be drawn from the outside and pass through electrostatic type filters for cleaning before entering into the air conditioning equipment. In the cafeteria, there will be a mixture of return and outside air.

The absorption machine will have a refrigeration capacity of 200 tons.

Greenwood Mills, Inc., is the general contractor; James C. Hemphill, the architect; and James Posey & Associates, consulting engineers.

Worthington Earnings Reported

HARRISON, N. J. — Worthington Pump & Machinery Corp. and its domestic subsidiaries reported a net income for the six months ended June 30 of $2,600,190, or $2.47 per share of common stock.

They'll Be Hosts for National Meeting

Members of the Chicago ASRE section who are planning arrangements for the society's national meeting Dec. 5 to 7 at the Edgewater Beach hotel include (l. to r.) K. E. Wolcott, J. E. Salmon, Leon Buehler, Jr., Fred P. Neff, general chairman; H. J. Prebensen, Carl Eichstaedt, and Clarence Sieben. *Photo by Irving Alter.*

* * *

Texas Service Firm Set Up

MCALLEN, Tex. — Hammond Refrigeration Service was opened here.

Chicago Group Maps Plans For ASRE Session Dec. 5-7

CHICAGO — With the Edgewater Beach hotel here set for the scene of the annual winter meeting of the American Society of Refrigerating Engineers Dec. 5 to 7, members of the Chicago ASRE section who will be hosts are making their preliminary plans.

General chairman of the arrangements committee is Fred P. Neff, other members including K. E. Wolcott, Leon Buehler, Jr., chairman of the Chicago section; J. E. Salmon, H. J. Prebensen, reception; Carl Eichstaedt, entertainment; Clarence Sieben, banquet; W. S. Bodinus, miscellaneous arrangements; D. E. Perham, meetings; J. P. McShane, budget; and C. M. Burnam, Jr., publicity.

Mrs. J. P. McShane heads a committee planning activities for the ladies, while Burgess H. Jennings, national ASRE president, is honorary chairman of the general convention committee.

Tinnerman Products, Inc. Appoints 4 Men to Key Executive Positions

CLEVELAND — Four major appointments at Tinnerman Products, Inc., recently were announced by George A. Tinnerman, vice president of the firm which makes the Speed Nut brand of fasteners.

Robert C. Overstreet was named secretary of the company; W. H. Taylor, assistant to the vice president; L. H. Flora, chief engineer, and R. A. Hartman, manager of field engineering. In addition, Flora and Hartman were appointed to the company's executive committee. Overstreet, formerly executive assistant to the general manager, has been associated with Tinnerman since 1941.

Taylor, who was named director of engineering a year ago, joined the Tinnerman organization in 1945. In his new position, he will assist in coordinating the work of all departments.

As chief engineer, Flora will direct all phases of product, development, and research engineering. Formerly chief development engineer, he has been associated with Tinnerman for seven years.

Hartman has served with Tinnerman for 10 years.

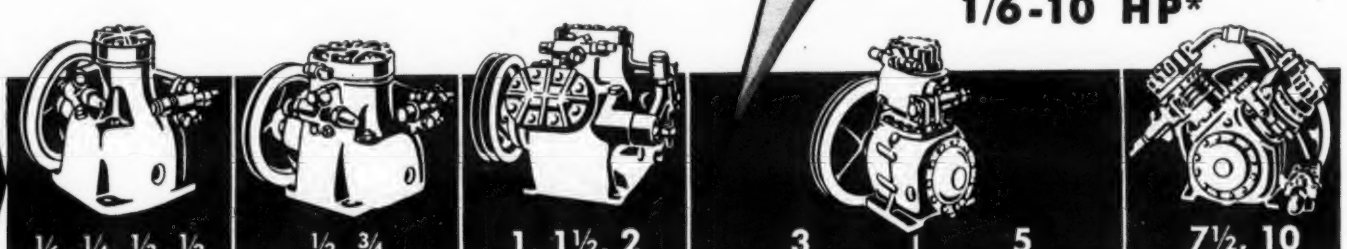
Store Cooling System Installed

ST. PETERSBURG, Fla.—A complete air conditioning unit to service the first three floors of the Willson-Chase store here is being installed and is expected to be in operation by mid-August..

Krauss Heating & Ventilating Co. is handling the installation, which will replace electric fans.

Order from this table

COMPLETE SPECIFICATIONS 1/6-10 HP*



HORSEPOWER	1/6, 1/4, 1/3, 1/2	1/2, 3/4	1, 1½, 2	3	5	7½, 10
Catalog No.	CW2B6	CW3A8	CW4A3	CM603G7	CM602G8	CM802E9
No. Cylinders	1	2	4	2	2	4
Max. Speed	1700 rpm	1700 rpm	1725 rpm	920 rpm	920 rpm	920 rpm
Bore (in.)	1-1/2	1-1/2	1-1/2	2-1/2	2-1/2	2-1/2
Stroke (in.)	1-1/4	1-1/4	1-1/4	2-3/4	3-1/2	3-1/2
Displacement (cu. in. per rev.)	2.21	4.42	8.84	27.0	34.3	68.6
Flywheel Dia. (in.)	7.442	7.442	7.442	15-5/8	15-5/8	19-5/8
No. Belts-Cross Section	1-A	1-A	2-A	3-A	3-A	3-B
Height of Body without flywheel (in.)	7-15/16	8-3/16	9-11/16	17-27/32	17-27/32	18-7/8
Suction Valve	1/2 F	3/8 F	7/8 S	1-1/8 S	1-3/8 S	1-5/8 S
Discharge Valve	3/8 S	1/2 S	5/8 S	3/4 S	7/8 S	1-5/8 S
MOUNTING DIMENSIONS (IN.)						
Base Dimensions	A 5-9/16 B 4-5/8 C 2-3/8	A 5-9/16 B 4-5/8 C 2-7/16	A 6-7/8 B 6-3/16 C 1-13/16	A 8-3/8 B 6-1/2 C 4-1/4	A 8-3/8 B 6-1/2 C 4-1/4	A 10-1/8 B 6-1/2 C 3-3/4

*Larger compressors—to 75 hp—are also available. Contact your authorized G-E Parts Depot.

Fast when you want them

REPLACEMENT PARTS FOR UNITS FROM 1/6 TO 75 HP

G-E CONDENSING UNITS, 1/6-10 HP

COMPRESSOR BODIES, 1/6 TO 75 HP

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GENERAL ELECTRIC

WILSON
REFRIGERATION, INC.
- FARM AND HOME FREEZERS
- REACH-IN REFRIGERATORS
- WALK-IN REFRIGERATORS
- FARM MILK COOLERS

DIVISION OF WILSON CABINET CO., INC.
SMYRNA • DELAWARE

New Cold Storage Plant Helps Ontario Growers

HAMILTON, Ont., Can.—The new Vineland Growers' Co-operative cold storage plant, recently put into operation, is reportedly a great boon to the growers of the district as well as to the fresh fruit markets throughout the province.

With a capacity of 30 carloads or 50,000 bushels, and including facilities for rapid cooling of 15 carloads, the new plant already has proved effective in preventing a glut on the market of tender fruits, according to P. H. Schweyer, manager of the co-operative.

He said the new plant will cost about $160,000 when completed. The second floor of the structure is used for holding fruit and the first floor is equipped for rapid pre-cooling of tender fruits during the summer season. This floor also will be a holding area during the winter.

Present facilities of the plant allow for the pre-cooling of 8 carloads at one time.

Electrical Assn. of Phila. Elects Millham as Chairman

PHILADELPHIA—Frank B. Millham, treasurer of S. S. Fretz, Jr., Inc., was recently elected chairman of the air conditioning and industrial refrigeration group of the Electrical Association of Philadelphia and will take office at the group's next regular meeting on Sept. 20.

M. P. Jacobs of Williard Sales and Service, Inc., has been elected vice chairman. Carl S. Morash of General Electric Co. and Wilbur B. Nelson of Mack Machine Co. were elected to the executive committee.

Modern Takes Out Charter

OMAHA, Neb. — Modern Electric Co. has taken out a Nebraska charter to deal in home appliances and electrical contracting, with $15,000 capital stock.

G. H. Taylor To Be Secretary Of Taylor Instrument Cos.

ROCHESTER, N. Y.—George H. Taylor has been elected secretary of Taylor Instrument Companies here to succeed the late Henry W. Kimmel, the company has announced recently.

Rodney C. Mertz has been named to fill Taylor's former position as assistant secretary.

Herbert J. Noble, was elected president, treasurer, and a director of Taylor Instrument Companies of Canada, Ltd.

State-Owned Cooler Holds Pelts for Favorable Price

CHEYENNE, Wyo. — A walk-in cooler is a money-saver for the State Game and Fish Commission, according to Charles Hanscum, state game warden.

Hanscum pointed out that the storage of furs has helped the state to take advantage of better fur markets. For example, 429 beaver pelts have just been returned from the Denver fur auction because bids were too low.

The pelts, which are obtained through confiscation, eradication of beaver doing damage to private property, and through a cropping program on federal and state controlled lands, brought a top price of $46 for the best 14-pelt lot sent to Denver last year and the average was $25, whereas this year top bid was $29 for the best pelts and an average would have been about $13.

Wyoming will hold the furs in the commission's cold storage vault until beaver prices are up, it was indicated.

Buffalo Firm Files Name

BUFFALO—A business name has been filed in the Erie County clerk's office for Lovejoy Refrigeration, 1298 Lovejoy St., Buffalo, by Leo L. Nanna.

Nebraska Farm Survey Shows Mkt. for Refrigeration Products and Appliances

LINCOLN, Neb.—Nebraska farmers plan to buy 3,911 mechanical coolers for milk in the next 12 months as compared with 3,353 in the preceding year, 18,104 mechanical refrigerators as compared with 25,033 in the past year, and 16,216 home freezers as compared with 19,781 in the year just past, it is indicated in a survey made by the research department of the *Nebraska Farmer* magazine.

The figures are based on 260 replies from farm families to questionnaires sent out to all parts of the state, with the precentage figures from the proportionate sample multiplied by the 111,756 farm homes in Nebraska as shown in the 1945 census.

A year ago 3% of the farmers interviewed said they intended to buy mechanical coolers for their milk house, while this year the percentage so inclined was 3.5.

Last year 22.4% indicated they would buy mechanical refrigerators from the home during the next 12 months, while this year the percentage was 16.2. Incidentally, 13.1% said they would get electric refrigerators and 3.1 expressed preference for the gas-operated model.

Farmers indicating they would install air conditioning systems in their homes during the coming year accounted for 3.8% of the total, or 4,247 farm homes, while in a survey a year ago the percentage was 4.1 or 4,582.

Other farm home buying requirements for the ensuing 12 months as revealed in the survey: 8.8% would buy washing machines (regular), compared with 9.4% a year ago; 3.8% would buy automatic washers, compared with 5.3% a year ago; dishwashers, 3.1%, compared with 3.5 last year; clothes dryers, 1.9% and 0.6% last year; ironers, 5.8 and 7.1%; kitchen ranges (electric) 10% and 10.6%; ranges (coal-wood), 1.5 and 5.3%; ranges (bottle gas), 9.2 and 12.9%; other types of ranges, 1.5 and 0.6%.

The continued expansion of rural power lines was reflected in the survey by indications that the farmers would purchase more of certain electrical appliances than they did during the past 12 months, despite the over-all trend which showed that fewer home appliance purchases in general are being planned this coming year.

For example, 14.2% said they would purchase electric water heaters, while the percentage a year ago was 12.9. On the other hand, only 6.9% noted an intention of buying gas water heaters, compared with 7.7% a year ago, and 4.6% said they would get oil water heaters as compared with 5.9% answering the question last year.

Other indications of increasing electricity use were an 11.9 percentage indicating they would get vacuum cleaners, compared with 9.4% last year, and 15.8 saying they planned to purchase electric sewing machines, compared with 11.2% a year ago.

The farmers also indicated they would purchase more small electrical appliances such as coffee pots, waffle irons, and home pasteurizers than they did during the past 12 months.

Bell & Gossett Issues 2 Equipment Catalogs

MORTON GROVE, Ill.—Two new refrigeration equipment catalogs have just been published by Bell & Gossett Co., here.

Catalog BJ-848 provides complete engineering data on the B & G "Hydro-Flo" direct expansion evaporator line. The catalog includes a section on simplified selection procedure and diagrams of typical refrigeration and cooling systems.

Catalog BK-948 features B & G finned tube condensers in both straight tube and "U" bend models. Methods of correct selection, capacities, dimensions, and other helpful engineering data is given.

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- PLASTICS
- DIE CASTINGS
- SCREWS AND BOLTS

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Birmingham ..... Refrigeration Supplies Distributor
Mobile ..... Enoch Sales Company
Montgomery ..... Nolin McInnis Company

ARKANSAS
Fort Smith ..... Central Supply Company
Fort Smith ..... Interstate Electric Company
Fort Smith ..... Palmer Supply Company
Little Rock ..... N. O. Nelson Company
Little Rock ..... Refrigeration & Electric Supply Co.
Texarkana ..... Interstate Electric Company

CALIFORNIA
El Centro ..... Refrigeration Supplies Distributor
Fresno ..... G. C. Armour Company
Los Angeles ..... Arrow Refrigeration Supply
Los Angeles ..... Authorized Supply Corporation
Los Angeles ..... Refrigeration Supplies Distributor
Long Beach ..... L. B. Marsh Allied Refrigeration Supply Co.
Long Beach ..... Refrigeration Supplies Distributor
Sacramento ..... Hinshaw Supply Company
San Diego ..... L. B. Marsh Allied Refrigeration Supply Co.
San Diego ..... Refrigeration Supplies Distributor
San Francisco ... Hinshaw Supply Corporation

COLORADO
Denver ..... McCombs Refrigeration Supply Co.
Denver ..... Thermo Supply Corporation, Inc.
Pueblo ..... McCombs Refrigeration Supply Co.
Pueblo ..... N. O. Nelson Company

CONNECTICUT
Hartford ..... Marsden and Wasserman, Inc.

FLORIDA
Jacksonville ..... Ace Refrigeration Supplies
Jacksonville ..... Refrigeration Supply Corporation
Miami ..... Ace Refrigeration Supplies
Miami ..... Graves Refrigeration Supplies
Orlando ..... Mann-Wright Company
Orlando ..... R and R Supply Company
Tampa ..... Leo S. Bosarge Company
Tampa ..... Graves Brothers Refrigeration Supplies, Inc.

GEORGIA
Atlanta ..... Leo S. Bosarge Company
Atlanta ..... Graves Refrigeration, Inc.
Augusta ..... Graves Refrigeration Supplies
Columbus ..... Graves Supply Company

ILLINOIS
Chicago ..... The Harry Alter Company
Chicago ..... Automatic Heating & Cooling Supply Co.
Chicago ..... Chase Supply Co.
Melrose Park .... Service Parts Comany
Peoria ..... Marquette Equipment Company
Peoria ..... Polar Supply Corporation
Rockford ..... Gustave A. Larson Company
Springfield ..... United States Electric Company
Urbana ..... Gustave A. Larson Company

INDIANA
Evansville ..... F. H. Langsenkamp Company
Fort Wayne ..... F. H. Langsenkamp Company
Indianapolis .... F. H. Langsenkamp Company
South Bend ..... F. H. Langsenkamp Company

IOWA
Davenport ..... Gustave A. Larson Company
Des Moines ..... White Refrigeration Supply Company
Dubuque ..... Gustave A. Larson Company
Sioux City ..... Dennis Refrigeration Supply
Waterloo ..... Winterbottom Supply

KANSAS
Topeka ..... Refrigeration Equipment Company
Wichita ..... Refrigeration Equipment Company

KENTUCKY
Louisville ..... F. H. Langsenkamp Company

LOUISIANA
Baton Rouge .... Atlas Refrigeration Supply Corp.
Monroe ..... Humphries Refrigeration Supply Co.
New Orleans .... Acme Refrigeration Supplies, Inc.
New Orleans .... Enochs Sales Company
Shreveport ..... Interstate Electric Co. of Shreveport

MARYLAND
Baltimore ..... Roche and Hull, Inc.

MASSACHUSETTS
Boston ..... A. E. Borden Company, Inc.
Boston ..... Supply Distributors Corporation
Springfield ..... C. P. Payson Company, Inc.

MICHIGAN
Detroit ..... Lee Equipment Company
Detroit ..... J. M. Oberc, Inc.
Flint ..... Lifsey Distributing Company
Grand Rapids ... Harris Supply Company
Highland Park .. J. M. Oberc, Inc.
Kalamazoo ..... Harris Supply Company
Lansing ..... J. M. Oberc, Inc.
Saginaw ..... J. George Fischer and Sons, Inc.

The leading wholesalers in the

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Plant Maintenance Show Set for January 16-19

NEW YORK CITY — Equipment, services, and materials to be exhibited at the first Plant Maintenance Show in Cleveland Auditorium Jan. 16-19 will include the fields of air conditioning, heating, and ventilating, according to Clapp & Poliak, Inc., the exposition management.

Major stress at the show, as well as at a conference to be held at the same time, will be placed on cost reduction factors, it was reported.

Among members of a 15-man board which will act as an advisory group for the show are B. E. Boyd, vice president in charge of manufacturing, Owens-Corning Fiberglas Corp.; S. W. Corbin, industrial division, General Electric Co.; L. P. Hanson, general sales manager, U. S. Air Conditioning Corp.; J. R. Hertzler, vice president and general sales manager, York Corp.; and Don G. Mitchell, president, Slyvania Electric Products, Inc.

Advance registration cards and hotel information may be obtained from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

Arkansas Valley Supply Opens

CONWAY, Ark. — The Arkansas Valley Supply Co., wholesale air conditioning, plumbing, and heating business, has opened for business.

6,807 Jobs Completed Since '45 Support Houston's Claim of 'Widest Variety'

(Concluded from Page 1)

In 1946, for example, there were 147 residence installations; in 1947, 692; in 1948, 2,470; and in the first six months of this year, 1,990.

These figures do not include all the window type room coolers, because the magazine states that "many small, fraction ton units of which no available record has been revealed would probably raise considerably the number of homes in the city which have one or more rooms air conditioned."

The man whose home is air conditioned might also spend his workday in one of the 45 completely air conditioned office buildings located in the city or the additional 500 individual offices and suites that are air conditioned.

He could eat in 137 restaurants that are air conditioned, shop in 27 air conditioned department stores, some 50 drugstores or hundreds of other retail stores of all types that are air conditioned, obtain medical and dental treatments at several hundred air-cooled doctors' and dentists' offices, deal with a dozen air conditioned banks, and Sundays attend any one of nearly 40 air conditioned churches.

The traveling man would be interested in the fact that Houston now has 3,435 air conditioned hotel rooms, that is, if he were fortunate enough to find a room. However, there are 286 air conditioned motel rooms that have air conditioning.

Shown in the accompanying tables is the breakdown of 6,807 installations made in Houston in 1946, 1947, 1948, and the first half of 1949. There are 49 different classifications listed, ranging from appliance stores to warehouses.

Of these 6,807 installations 366 were made in 1946, 1,063 in 1947, 2,996 in 1948, and 2,382 up through June 30 of the current year.

Residential air conditioning installations account for a high percentage of these totals. The 147 residence jobs in 1946 represented 40% of the total. In 1947 the 692 residential installations were 65% of the total. They accounted for 89% in 1948 with 2,470 installations, and in the first six months of this year the 1,990 residence jobs were 84% of the total.

Many of these undoubtedly represent window and console type room units, but the total installed tonnage for each of these years is approximately double the number of installations, indicating that (1) the small ½-hp. units do not necessarily predominate, or (2) probably more than one unit goes into most homes.

Where Air Conditioning Was Installed In Houston During Past 3½ Years

	1946		1947		1948		1949*	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons
Appliance Stores	1	40	8	81	6	70	1	5
Auto Sales Rooms	8	96	3	35	7	105	3	38
Auto Supply Stores	1	8	2	25	3	25.5	1	15
Banks	2	1,205	4	1,288	2	110	4	100
Beauty and Barber Shops	7	37	6	26	12	55	4	14
Bowling Alleys	1	5	2	115	....	....	1	80
Breweries	....	....	....	....	3	16	....	....
Candy Stores	....	....	1	6	1	6	....	....
Carpet Stores	....	....	2	12.5	1	5	1	5
Churches	7	622.5	6	425	5	123	18	1,428
Cleaners and Laundries	....	....	....	....	1	3	1	3
Clubs	....	....	6	150	2	28	5	288
Cocktail Lounges	....	....	3	45	6	50	4	16
Cold Storage	3	21	1	15	1	10	....	....
Dancing Schools	....	....	....	....	1	5	....	....
Department Stores	1	400	9	1,420	7	767.5	10	295
Drugstores	8	90	15	112.5	20	218	6	120
Dry Goods Stores	3	70	7	130	4	35	6	572.5
Educational Bldgs.	2	450	2	750	1	40	4	1,033
Florists' Shops	1	5	3	18	3	15	....	....
Food Stores	12	509	12	610	10	106	9	485
Funeral Homes	1	5	1	25	1	30	2	15
Furniture Stores	....	....	3	65	6	380	5	398
Hardware Stores	....	....	2	10	1	5	1	7.5
Hospitals	2	175	....	....	4	2,852	2	925
Hotels	....	....	....	....	3	5,305	2	2,020
Interior Decorators	....	....	1	5	3	15	....	....
Jewelry Stores	5	35.5	9	61.5	2	43	2	10.5
Laboratories	1	75	10	878	10	423	8	190
Ladies' Shops	5	73	6	474	11	54	3	34
Liquor Stores	2	20	3	13	....	....	....	....
Lumber Companies	1	3	3	15	8	69	6	33
Men's Retail Stores	3	35	7	52.5	3	25	2	10
Miscellaneous Retail Stores	8	72	10	160	12	178	12	127.5
Music Stores	1	5	4	16	1	5	....	....
Offices	87	933	137	1,236	235	3,119	179	2,791.25
Office Buildings	5	1,085	8	2,665	9	2,190.5	17	4,823
Paint and Wallpaper Stores	....	....	2	63	4	20.5	....	....
Photographers	2	6	....	....	2	10	....	....
Plants & Commercial	8	725	8	700	19	2,105	12	3,242
Radio Stations	....	....	1	10	2	28	2	30
Residences	147	380	692	2,755	2,470	4,845	1,990	5,425
Restaurants	15	143	37	520.5	54	648.75	31	554
Shoe Stores	4	75	1	113	4	35	....	....
Specialty Shops, etc.	6	230	16	1,140	22	3,180	14	2,295
Theaters	4	175	3	155	7	470	2	115
Tourist Courts	....	....	....	....	4	71.5	12	286.25
Transportation Waiting Rooms	1	125	1	10	1	5	....	....
Warehouses	1	25	6	120	2	20	....	....
Total	**366**	**7,959**	**1,063**	**15,526.5**	**2,996**	**25,925.25**	**2,382**	**27,829.5**

A few of the above installations are now underway.

*First six months only.

San Antonio Claims Largest 'Per Capita' Installations of Air Conditioning Units

(Concluded from Page 1)

in 1928. In 1932 another 50-ton unit was added, enabling the bank to maintain 100 tons of customer comfort.

The Bell-Kotzebue Co., which installs air conditioning and builds vents in its shop, believes it is the first heavy industry to furnish complete air conditioning for its manual labor. This service was started in 1947.

San Antonio is the only city in the world with gasoline-powered city buses that are air conditioned, the San Antonio Transit Co. contends. Sixty-one of the company's 315 buses are air conditioned. Each is a 32-passenger vehicle.

Atlanta, with electric trolley coaches—the bus-type vehicles which go to curbs to pick up passengers but which run on electricity rather than gasoline—is the only other city known to have similar service for buses limited to urban travel, transit company officials added.

The title of being "the first completely air conditioned hotel in the world" goes to the St. Anthony hotel, say San Antonians. It has 450 guest rooms.

After the St. Anthony and although not a first in its field the Plaza hotel, another major San Antonio hotel, became completely air conditioned.

The third major San Antonio hotel to be air conditioned was the Gunter hotel, with all of its 250 rooms being equipped during the summer of 1949 with separate room air conditioners. The Gunter thus became the first major hotel to be completely air conditioned with separate units in each room," it is claimed.

The 250 room air conditioners were half of the largest single sale of room air conditioners ever made. Of course, this 500-unit sale was in San Antonio. After the first 250 were taken to the Gunter, the other 250 were taken to the Baker hotel in Mineral Wells, Tex.

San Antonio's Milam Bldg., a 21-story edifice opened Feb. 1, 1928, with an air conditioning capacity of 450 tons, was the first completely air conditioned major office building in the world, they say here. This structure, which also claims to be the first building of major proportions in which reinforced concrete was used, had its air conditioning capacity increased by 200 tons in 1946.

Turnover of tenants has been extremely low, and 25% of the building employes have remained with their jobs for 15 years or more. The machinery has given continuous service without a single breakdown.

Wholesale Representation

MINNESOTA
Duluth ..... Refrigeration Wholesalers, Inc.
Minneapolis ..... Refrigeration & Industrial Supply Co., Inc.
Saint Paul ..... Refrigeration Supply Company, Inc.

MISSISSIPPI
Jackson ..... N. O. Nelson Company

MISSOURI
Cape Girardeau .. N. O. Nelson Company
Jefferson City ... N. O. Nelson Company
Joplin ..... Joplin Supply Company
Kansas City ..... Refrigeration Equipment Company
Kansas City ..... Superior Refrigeration Supply
Saint Joseph .... Bristol Refrigeration & Supply Co.
Saint Louis ..... N. O. Nelson Company
Springfield ..... Hoffman Supply Company

MONTANA
Billings ..... Refrigeration Supply Company

NEBRASKA
Lincoln ..... Wickham Supply Company
Omaha ..... Dennis Refrigeration Supply

NEW JERSEY
Newark ..... W. I. Freeman and Company, Inc.
Newark ..... Wallwork Bros.

NEW MEXICO
Albuquerque .... McCombs Refrigeration Supply Co.

NEW YORK
Albany ..... R. D. Marshall and Company, Inc.
Brooklyn ..... Coleman Electrical Supply Company
Buffalo ..... Jordan Supply Company
Elmira ..... Clay Refrigeration Supply
New York ..... Harry Alter Company
New York ..... Reese and Long Refrigeration Products, Inc.
Poughkeepsie ... Swift Parts Company
White Plains .... County Seat Supply Company

NORTH CAROLINA
Asheville ..... Freck Radio & Refrigeration Supply Company
Charlotte ..... Bowen Refrigeration Supplies, Inc.

NORTH DAKOTA
Fargo ..... Refrigeration Supply Company, Inc.

OHIO
Akron ..... Davey Sales Co.
Cincinnati ..... Williams and Company
Cleveland ..... Williams and Company, Inc.
Columbus ..... Williams and Company, Inc.
Dayton ..... Allied Supply Company
Lima ..... Allied Supply Company
Toledo ..... The Heat & Power Engineering Co.
Toledo ..... Williams and Company, Inc.

OKLAHOMA
Muskogee ..... K and M Supply Company
Oklahoma City .. Macklanburg Supply Company, Inc.
Tulsa ..... K and M Supply Company
Tulsa ..... Palmer Supply Company

OREGON
Portland ..... Peerless Pacific Company

PENNSYLVANIA
Allentown ..... Larson Supply Company
Harrisburg ..... Refrigeration Supply Company
Philadelphia ..... United Refrigeration, Inc.
Pittsburgh ..... Williams and Company, Inc.
Reading ..... Larson Supply Company
Wilkes-Barre .... General Radio and Electronic Co.

SOUTH CAROLINA
Charleston ..... Roberts Refrigeration Supply Co.
Greenville ..... Texwood Manufacturing & Sales Co.

TENNESSEE
Chattanooga .... Peglar's, Inc.
Knoxville ..... Leinart Engineering Company
Memphis ..... N. O. Nelson Company

TEXAS
Austin ..... N. O. Nelson Company
Beaumont ..... N. O. Nelson Company
Corpus Christi ... United Refrigeration Company
Dallas ..... N. O. Nelson Company
Dallas ..... Texas Refrigeration Supply Co.
El Paso ..... M & M Refrigeration and Electric Service Co.
Fort Worth ..... Texas Refrigeration Supply Co.
Harlingen ..... United Refrigeration Company
Houston ..... N. O. Nelson Company
San Antonio .... United Refrigeration Company
Waco ..... N. O. Nelson Company
Wichita Falls .... N. O. Nelson Company

UTAH
Salt Lake City .... N. O. Nelson Company

VIRGINIA
Norfolk ..... Refrigeration Suppliers, Inc.
Roanoke ..... Southern Refrigeration Supply Co., Inc.

WASHINGTON
Seattle ..... Peerless Pacific Company

WISCONSIN
Eau Claire ..... Gustave A. Larson Company
Green Bay ..... Gustave A. Larson Company
Kenosha ..... Gustave A. Larson Company
Madison ..... Automatic Temperature Supplies, Inc.
Madison ..... Gustave A. Larson Company
Milwaukee ..... Gustave A. Larson Company
Oshkosh ..... Gustave A. Larson Company
Sheboygan ..... Gustave A. Larson Company
Wausau ..... Gustave A. Larson Company

DISTRICT OF COLUMBIA
Washington D.C. .. Refrigeration Supply Company, Inc.

U. S. sell BETZ cooling units

HAMMOND, INDIANA

REFRIGERATION AIR CONDITIONING HEATING PARTS and SUPPLIES

SERVICE THAT'S UNSURPASSED from the SUPPLY HOUSE THAT SERVICE BUILT

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Available from 1/2 to 10 H.P.
CLEANABLE
DOUBLE-TUBE
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WATER-COOLED
CONDENSERS
Write for literature
Halstead & Mitchell
BESSEMER BLDG.
PITTSBURGH 22, PA.

Postal Card Promotion Proves Profitable For Selling Commercial Service Contracts

Philadelphia Firm Finds Cold Canvassing Too Costly

Alex Hamilton, partner in the Atlantic Refrigeration Equipment Co., stands in front of the firm's own walk-in installation.

* * *

PHILADELPHIA — A consistent penny postal card campaign promoting the sale of service contracts is credited with doubling the service and sales business of the Atlantic Refrigeration Equipment Co.

"We started in business early in 1944 and have been increasing our business ever since," says co-owner Alex Hamilton. "Perhaps some of our success can be credited to our manner of conducting our business operations. That is, I have always taken care of the service end of the partnership and Tony Martin, my partner, has always been on the sales and administrative end of our affairs."

The Atlantic Refrigeration Equipment Co. started off with just these two partners, but has since expanded to an added three man installation and repair department, an office girl, and another outside salesman.

"Being newcomers to this field of refrigeration and air conditioning, we thought that our best entry would be to specialize among certain lines and to do it by direct mail. We were both interested in serving the taproom trade and began to develop it by sending out postal cards," Hamilton relates.

Over 4,000 stencils were made up for a mailing of penny postals to a complete list of taproom and bars in the Philadelphia and nearby suburban areas. These postals stressed service contracts and asked interested owners to phone this concern.

During the spring season, postals were mailed once every two weeks and during summer, a mailing was made weekly. At a cost of less than $100 per mailing, this concern receives over 15 leads that turn out to be service sales.

During the so-called slow winter months, the Atlantic Refrigeration Equipment Co. makes monthly mailings of specials. A typical special was a circulating water or cold air beer system check-up at $3.50. A large number of bars took advantage of this offer and were later sold on the annual service contract.

SERVICE CONTRACT PROCEDURE

When an interested prospect calls the Atlantic Refrigeration Eqiupment concern regarding an annual service policy, Hamilton is the man who tackles the job. First the entire system is inspected and if found to be in satisfactory condition, a service contract is entered into immediately.

"Usually we charge $135 per year for an average system," says Hamilton, "but when we find the system to be in pretty bad shape we recommend immediate repairs and replacements in order to obtain a low service charge contract. If not, the rate is naturally higher."

The service contract agrees to supply labor and materials as are necessary to service the draft beer refrigerating machinery, but it does not cover hardware, lines, and all equipment or parts used in delivery of beer.

"Our service contract is simple and easy to understand," Hamilton explains. "We do not have any hidden clauses or type in small letters. In fact our contract is on a mimeographed sheet of paper to show customers how simple is it. Perhaps it is because of this existing circumstance that one customer has recommended another to us."

One beer distributor with whom this concern has a service contract

(Concluded on next page)

No Fine Print In This Agreement

ATLANTIC REFRIGERATION EQUIPMENT CO.
4509 N. Broad Street
Philadelphia, Pa.

Date_____

SERVICE CONTRACT

This contract is between THE ATLANTIC REFRIGERATION EQUIPMENT CO. of 4509 N. Broad Street, Philadelphia, and _____

For the sum of $_____, paid in advance, the Atlantic Co. agrees to supply labor and such material as may be necessary and available, to service the draft beer refrigerating machinery located at the above address, for a period of one year, starting from the date of this contract.

This contract covers the entire present refrigerating machinery on draft beer. Excluded are hardware, lines, and all equipment and parts used in the delivery of beer. The Customer agrees not to hold the Atlantic Co. responsible for fire and theft. There will be a charge for relocation of beer system or parts. This is the entire agreement between the parties.

Type of System_____
Type of Unit_____
H.P. of Unit_____
No. of Coils_____
Remarks:

(Signed)_____
ATLANTIC REFRIGERATION EQUIPMENT CO.

(Signed)_____
CUSTOMER

SALESMAN_____

This simple mimeographed service contract inspires customer confidence.

You can cut
REFRIGERATION COSTS
When Handling
CANS, CRATES, KEGS

CAN AND CRATE PASSING DOOR

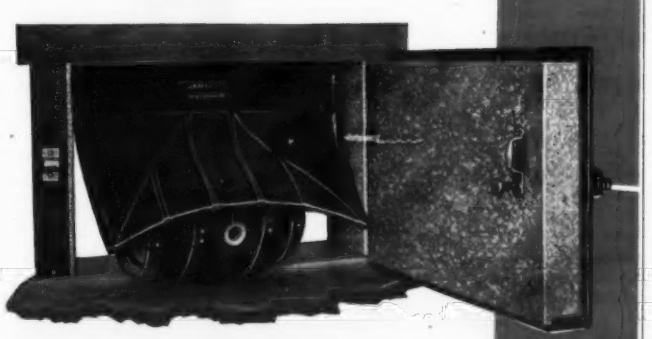
The Auto Close doors swing open readily and close automatically when the cold storage doors open. This checks the inrush of warm air and saves refrigeration. The door can be fitted into a conveyor system or used with its own roller conveyor.

ICE CREAM CAN PASSING VESTIBULE

The vestibule is equipped with a cold storage door at each end. Maximum loss of cold air is limited to the volume of the vestibule because either door is always closed whether loading or unloading. Vestibule holds six to nine cans in various arrangements.

KEG PASSING DOOR

A flexible light weight insulating curtain of moulded material prevents the loss of cold air when the door is open. The movement of the keg lifts the curtain without shock or abrasion as it passes. It immediately drops back in place and air movement is cut off.



These Jamison-Built Doors permit the speedy passing of cans, crates, boxes, packages or kegs in and out of the refrigerated space. Each of the methods illustrated is particularly well suited to the temperatures and type of container. The loss of cold air and the entry of warm air during the time containers are moved in and out of refrigerated storage rooms is held to a minimum. The resulting savings in refrigeration costs can be substantial.

JAMISON
HAGERSTOWN, MARYLAND, U. S. A.

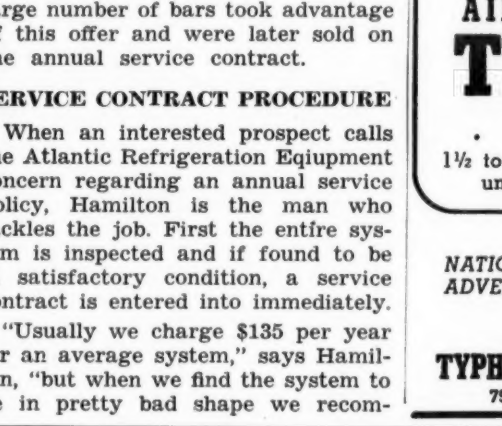
Standard types of Jamison-Built doors are available for a wide range of temperatures and applications. For special requirements doors can be built to your specification regardless of size, character or duty.

Write for new catalog that gives helpful information on cold storage door selection.

JAMISON COLD STORAGE DOOR CO., HAGERSTOWN, MD
The Oldest and Largest Builder of Cold Storage Doors in the World

COOL
PROFITS in AIR CONDITIONING
TYPHOON
PACKAGED UNITS
1½ to 10-ton units
40th YEAR 1909 - 1949
NATIONALLY ADVERTISED
TYPHOON Air Conditioning Co., Inc.
794 Union St. • Brooklyn 15, N. Y.

the NEW GENERAL
DRY BEVERAGE COOLER



AT AN UNBEATABLE PRICE

Model BSC-76
SELF-CONTAINED
at
$349.00
(net, FOB N. Y.)

Also available with Stainless Steel Exterior

Immediate Delivery

A perfectly engineered self-contained Dry Beverage Cooler of heavy-gauge steel over reinforced frame. Black crackle finish, with stainless steel top and stainless steel slide-up "disappearing" doors. Automatic inner lighting. Will hold approximately 18 cases.

READY TO USE — JUST PLUG IN!

GENERAL REFRIGERATORS CORPORATION
678 Broadway New York 12, N. Y. GRamercy 3-1222

Tipping Glasses Helps Tip Sales Scale

Serving prospects beer and sandwiches from their own bar helps conversation and sales, the partners feel. Seeing the equipment gives many customers an idea of the equipment they want in their own business.

* * *

Bar and Cooler Installation of Its Own Helps Commercial Dealer Close Many Sales

(Concluded from preceding page)

has recommended two of its taproom customers to them and each took out a service contract at $150 per year.

All contractees have their systems checked once a month and for special service call up direct. These monthly calls are termed "preventive maintenance" and by adhering to them strictly, the company has minimized the number of "large" or costly repair jobs.

NO COLD CANVASSING

The service department of the company is responsible for about 98% of all new business. As systems are checked monthly under the contracts, notations are made of systems that are pretty badly worn and should be replaced. These notes are then forwarded to Martin who goes after a new replacement system.

"We found cold canvassing to be a very costly proposition," says Hamilton, "hence we have sold new systems only from service customers and recommendations forwarded from them as well. Many customers have resulted from our post card campaign who found it more advisable to buy a new system than repair their old one and pay a higher yearly premium for service."

Of all the types of promotions tried by this concern, the postal card has proved best. It is direct, easily read, and its consistency of reaching the same parties month-after-month impresses prospects.

Hamilton also subscribes to the Dodge Building Report service and is informed of new clubs, buildings, and other constructions in his area where a bar may be needed. These leads are followed by Martin and a large number of clubs in this area have been outfitted and serviced by this concern.

BEST METHOD OF SELLING

"We have found that an actual bar and cooler in use is the best method of selling," says Hamilton, "and for this reason have installed a 6 by 6-ft. walk-in cooler in our store complete with beer and seltzer on tap, a circulating water system, as well as a 10-ft. Formica covered bar.

"Club members are brought into our store to discuss the purchase of a bar and equipment and many sales have been made over a glass of beer and sandwiches which we always have on hand. The same has been done for individual bar owners when they were taken to our store to see our demonstration system and walk-in box.

ALSO SELLS AIR CONDITIONING

"Just recently, we had a prospect come to us for a small bar and walk-in box," Hamilton relates, "and the moment he came into the store he pointed a finger at our installation and said 'that's what I want.' And without further questions we sold him the exact system without any price discussions."

In addition to these systems, the Atlantic Refrigeration Equipment Co. sells air conditioning equipment. Here again, sales are made to service contract customers, without cold canvassing.

After a prospect has had his service contract in existance for several months, Martin goes after them for air conditioning systems.

End Your Service Problems...

Place your beer systems under the protection of our insurance plan.

We maintain all circulating water and cold air beer systems.

Replacement Parts for KOLD-DRAFT, G. E., PENFLO, FOGEL and all other types included.

New Systems built to your specifications.

For information call

Atlantic REFRIGERATION EQUIPMENT COMPANY

DAY—MI 4-5142 NITE—PI 5-4371

One mailing like this brought in 15 leads which resulted in sales. One such mailing cost the firm less than $100, it was said.

Beer System Check-Up Offer

MID-WINTER SPECIAL

Defects Developing NOW Results In Costly Repairs Later

Owners of Circulating Water or Cold-Air Beer Systems take advantage of our Semi-annual **$3.50 Check-up.**

including: Blow-Out Circulating Water Circuit

Clean Out Condenser
Check Refrigerant Charge
Check Oil Charge
Check Belts
Check and Clean All Controls
Check and Clean All Valves
Check All Motors
Check Air-Pump

DAY: MIchigan 4-5142 *For Service* NIGHT: PIlgrim 5-4371

Atlantic Refrigeration Equipment Co.

4509 North Broad Street Philadelphia 40, Pa.

FOR INFORMATION ON NEW BEER EQUIPMENT - CALL MIchigan 4-5143

This special offer made during the slow summer months led to many regular, service contracts.

"Our entire sales program revolves around our servicing department," says Hamilton, "which is a very important reason why we must render good, reliable, and reasonable priced service. Once goodwill is built by our servicing, we can make sales afterwards.

"Just recently one of our service customers desired some new equipment and although they could have procured it for $700 less than we were able to offer it, they bought it from us, because they said that it was the service after the sale that counted rather than the immediate purchase itself."

The Atlantic Refrigeration Equipment company can handle almost any job because of the care used in the selection of installation and servicing personnel. One of his employes was a former plumber, another a mechanic, another an electrician, and he himself is thoroughly familiar with refrigeration and air conditioning. Such teams can handle almost any job and any problem.

Hyssong's Opens New Store

HORSEHEADS, N. Y.—Hyssong's announced the opening of a new appliance store at Sayre and Pine Sts., to provide more complete service in the Horseheads area. The firm also has a store in Elmira.

In Trim!

Your products are in trim for a race with keen competition only when they are handsome in every detail. That is where John Lees can help. John Lees stainless steel mouldings will give that perfection in detail which counts so much before the consumer's critical eye.

JOHN LEES

● *For moulding of quality at a saving, let us make recommendations and estimates. Write for catalog.*

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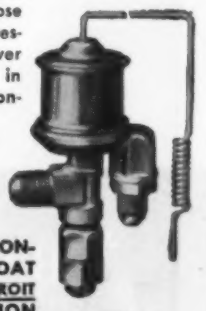
Kilgore Avenue, Muncie, Indiana, U. S. A.

demand DETROIT CERTIFIED VALVES and CONTROLS

designed right
built right
proven right

When you install DETROIT Certified Valves and Controls you are providing your customers with the best in refrigeration equipment. DETROIT Certified Valves and Controls are designed and built to fit your customer's needs—giving real economy and reliability through years of trouble-free service. This is true of the entire DETROIT line, one of the most complete in the refrigeration field. Add to this the fact that DETROIT has been famous for quality for over 70 years and you have an unbeatable combination. But DETROIT goes even further, certifying every valve and control in its line—backing you, your work and your reputation. For helpful information on ordering and installing DETROIT Certified Valves and Controls, send for the colorful DETROIT Catalog No. 200-B today.

No. 573 Thermostatic Expansion Valve—Designed for small commercial installations. Double diaphragm construction makes close superheat control possible at low suction pressures. The two-diaphragm gas charged power element provides motor overload protection in its simplest, most effective form. ½ ton, Freon-12. Write for Catalog No. 200-B.



No. 573

DETROIT
LUBRICATOR COMPANY

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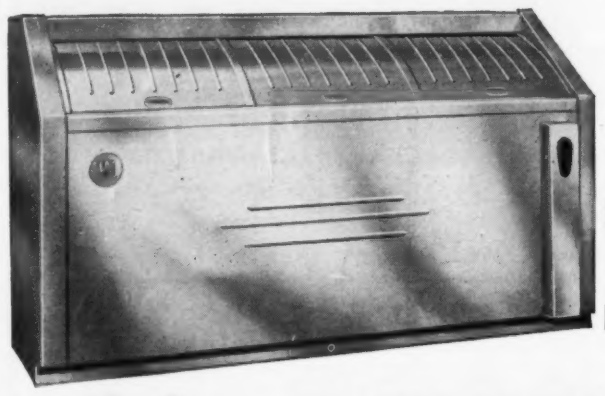
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION
CANADIAN REPRESENTATIVE: RAILWAY & ENGINEERING SPECIALTIES, LTD.—MONTREAL, TORONTO, WINNIPEG

DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE SAFETY CONTROLS • FLOAT VALVES AND OIL BURNER EQUIPMENT • DETROIT EXPANSION VALVES AND REFRIGERATION ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS

Serving home and industry AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILER • ROSS HEATER • TONAWANDA IRON

AGAIN-*La Crosse* LEADS!



WITH NEW CURVED STAINLESS STEEL SLIDE-AWAY DOORS - *FINGERTIP CONTROLLED*

La Crosse DRY STORAGE BOTTLE COOLER

EFFICIENCY—BEAUTY—CONVENIENCE—ECONOMY

A companion piece to the new La Crosse Ice Cube Maker. Adjustable partitions and shelf offers greater capacity—Sturdily constructed—Recessed base—Size 4'—6'—8'—10'. Also available with high bake finish. Shown above is a 6' Stainless Steel model. Automatic lighting available with all Coolers; stainless or standard models.

Cube Makers—Direct Draw Dispensers—Tap Boxes—Drainboards

LA CROSSE COOLER CO.

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Export Representatives: Melvin Pine & Co.
Cable address: Eximport 80 Broad St., New York 4, New York

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

Tom's two daughters, Judy and Sue, are both of school age, so Tom's wife decided that the family should remain in Ohio until the end of the school term. This decision proved wise. It took three weeks to locate a horse-moving van with licenses to go through the states of Ohio, Pennsylvania, New York, New Hampshire, Massachuetts, and Maine.

The van deadheaded to Pendergast's farm near Marion, Ohio; loaded the livestock; and proceeded to the new home at Standish Neck, Me. The trip required 48 hours.

The Pendergast family is now exploring new bridle paths along the roads and through the woods of the Pine Tree State.

Judy and Suzy—we should warn all readers of this column—are glamour-pusses, and definite menaces to all fathers of pre-teen-age sons.

Wisdom

Servel's Louis Ruthenburg is one of America's soundest business philosophers. Herewith we glean a few gems from one of his latest talks:

"We must clearly understand the nature of our changing environment. The farmers of our great Midwest agricultural area do not attempt to grow pineapples because they know that climatic or environmental conditions are not suitable. That knowledge, however, has not impeded their progress. Knowledge of climate and the effect of climate contributes greatly to their success.

"If we face the facts, we know that our changing political climate is increasingly unfavorable for business activity. Properly evaluated, this climatic condition is a challenge to our resourcefulness, our versatility, and our courage.

"The republic of the United States of America is being transformed rather rapidly into a socialistic state. Words are increasingly confusing. As I understand the terms, the 'Socialistic State' and the 'Welfare State' and the 'Garrison State' and the 'Police State' all mean the same thing. All may be accurately defined as 'way stations on the road to communism.' All have the same common denominator, which is progressive destruction of the individual freedom. This transformation of the republic to a socialistic state means substituting supremacy of the state for our time-tested, beneficient culture based upon the freedom and responsibility and sacredness of the individual.

"Truly, this advance in the socialization of America isn't something that has happened overnight.

"One of the immutable laws of nature is that of action and reaction, which is simply expressed in these words: 'Every action is followed by an equal and oppositely directed reaction.' One hundred and seventy-three years ago true liberalism was expressed in political and social terms by our Declaration of Independence. In 1776 there also was published Adam Smith's 'Wealth of Nations,' a clear expression of economic liberalism. Those great documents express the ideals of freedom and exalt the dignity and responsibility and sacredness of the individual. They are consistent with the teachings of the great Greek philosophers. They follow the precepts of the Judaic-Christian culture. They conform with immutable natural law.

"Promulgation of this philosophy set in motion a world-wide wave of true liberalism. There followed the American Revolution, through which a new nation was born, destined to create unimagined wealth, to bring to its average citizen benefits and blessings beyond a man's most sanguine dreams, to devote its wealth and genius to the defeat of tyranny and to earn the terribly difficult position of world leadership.

"Reaction to liberalism inevitably followed the declarations of 1776 and the resultant great movements toward freedom. German philosophers, oppressed by the tyranny of the state, dreamed of a communistic world—of a 'dictatorship of the proletariat.' Before Karl Marx was known, the German scholar, Weiskopf, evolved much of the philosophy that found expression in the works of Marx and Engels.

"Just 100 years ago the Communist Manifesto was published in England by Marx and Engels, who took advantage of British liberalism just as communists work today without effective restraint in the free atmosphere of the United States.

Income Tax

"In the Communist Manifesto is set forth the program for bringing about communism. The second step of that program is the institution of a graduated income tax. Such confiscatory taxes were adopted in England in 1909. In 1914 we, the people of the United States, took the same step toward establishing the communistic state. Relatively innocuous over a long period, our tax policy now destroys incentive and so dangerously restricts investment that the future of our enviable economy is threatened.

"History may reveal that 1914 was the fateful year of the United States of America. Then we applied tax measures destined to threaten our beneficent free economy, and in the same year there was enacted the first of a series of laws which violate the basic precept of equality under the law by bestowing special privileges upon labor unions. Now privilege and license permit irresponsible labor leaders to dominate the individual, to vitiate the responsibility of management, and to indulge in monopolistic practices very harmful to all of the people of the United States.

"Thus monopolistic unionism cooperates with confiscatory taxes in throttling freedom and in forcing the people of the United States to abandon beneficial social, economic, and political usages that were founded upon long-proven precepts—upon unchanging natural law.

"While it is very helpful to keep in mind always a clear conception of our basically fine, strong, American anatomy which conforms to the requirements of unchangeable natural law, we must deal effectively and quickly with forces which threaten to drive us from a culture of individual freedom into conditions under which the state, instead of being the servant of the people, becomes their master.

"The processes of internal disintegration operate very much like termites. The internal structure is weakened without perceptible change in outward appearance. We are unaware of the damage that has been done until the structure suddenly collapses under the impact of a storm. Thus was Rome destroyed by the barbarian invasion. Thus England surrendered to socialism under the impact of two great World Wars.

"Once we have gone beyond a certain point in accepting state controls, we shall be driven inevitably toward state control of all activities and the complete elimination of individual freedom.

"The forces which are driving us toward socialism had their inception many years ago and gradually have assumed such magnitude that their suppression may soon become impossible.

Understand It First

"Unless the businessmen of America can recreate a favorable climate, our best laid plans will come to naught. Each of us must clearly understand the exact nature of the cancerous growth that threatens our way of life so seriously and so immediately. Having acquired such understanding, we must exert our best efforts to transmit clearly and emphatically and repeatedly that knowledge to our fellow Americans at every level to which we have access—national; community; factories and other business organizations; and, most important of all, at the level of all of our schools.

"Unhappily, we are ill prepared to deal with these conditions. For nine long years the arts of selling have not been practiced. If you do not use your muscles, they atrophy and become useless. Tools unused for years are destroyed by rust. Today's salesmen and sales executives are like farmers who for nine long years have not been required to plow a furrow. Not only have they lost their skill, but they will find all manner of excuses for not returning to their plows. Moreover, our surviving pre-war salesmen and sales executives are nine years older than they were in 1940, and the inactive years have taken a terrible toll.

Deterioration of Salesmen

"Such disabilities afflict the entire distributive system—not only manufacturers' sales personnel, but that of distributors, jobbers, utilities, and retailers. The deterioration of retail selling manpower as to both quantity and quality is one of our most serious handicaps.

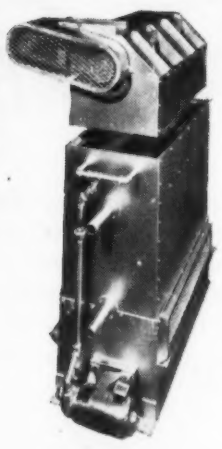
"The crying need in our changing economy is for speedy revival of the lost arts of salesmanship. Here and there we all know organizations in which creative retail selling has been maintained without interruption or deterioration. Many of these are ringing up sales volume substantially above that of a year ago. Here and there are surviving salesmen and sales executives who, like superannuated fire horses, respond to the alarm. Their revived abilities must be used as power houses of renewed energy for quickly and effectively training a new generation of youth-

(Concluded on next page)

BAKER

AIR CONDITIONING AND REFRIGERATION *in Freon and Ammonia*

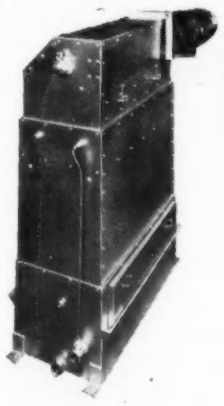
You have a *5-Point Advantage* in the new BAKER "BU" EVAPORATIVE CONDENSERS



Baker meets the growing demand for economy — in water, in installation and in service costs — with the new Baker "BU" Line of Evaporative Condensers.

Here are 5 Points of Advantage:

1. **Efficient Operation** — an exclusive feature prevents the building up of excessive concentration of impurities in recirculated water.
2. **Outdoors or Indoors** — each model in the "BU" Line can be located outdoors or indoors.
3. **Simplified Installation** — 45° angle air discharge and other special features allow selection of 16 installation arrangements.
4. **Long Life** — Famous Baker quality throughout, in design, material and construction.
5. **Cost Advantages** — initial investment, simplified installation and low maintenance meet the challenge for lower costs, better investment.



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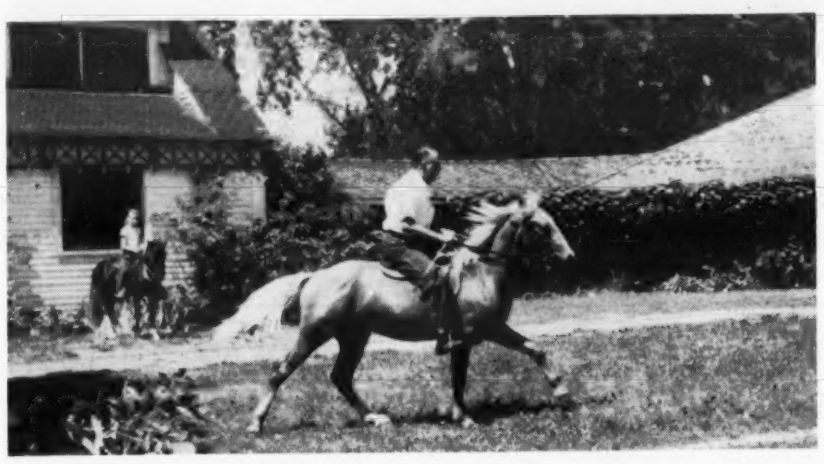
INSIDE DOPE

by GEORGE F. TAUBENECK



Baker Refrigeration's Tom Pendergast recently moved from his home in Ohio to South Windham, Me. where he purchased a portion of the Verrill Estate at Standish Neck on Sebago Lake. One of the big problems in the shift was getting transportation for his horses. (For more on this see "Inside Dope" page 1.) Photo above shows Pendergast riding "Blondie."

Pictured here is the Pendergast family (minus two colts and a billy goat). Left to right: Sue on "Darkee," Judy on "Prince," Mrs. Pendergast on "Breeze," and Tom on "Blondie."

(Concluded from preceding page)

ful, vigorous, enthusiastic, competent selling manpower. Results will be very disappointing unless revival and stimulation are carried through your entire selling fabric—from the factory sales force right through all retail organizations.

"Salesmanship, comprehensively defined, is the vitally important element of our industrial tool with which we shall solve our major problems in a changing economy. In a very real sense, fully effective salesmanship is like the keen cutting edge of an axe—indescribably important—but useless and without dimension unless it is backed by other essential elements of the industrial tool and given proper propulsion and direction by management.

"New products and marked improvements are required for novelty appeal, improved performance and greater value—all needed to impress buyers with greater desirability. Moreover, our designers will contribute to lower costs by making less material perform more useful functions, by finding ways of specifying less costly materials without impairing product quality, by restudying the design of parts, subassemblies, and accessories to the end that they may be produced at lower cost.

"The present condition of this important function—product research and design—will vary greatly from one organization to another. Very fortunate are those who have kept this tool bright and ready. Where it has been allowed to rust and deteriorate, heroic measures of rehabilitation are indicated.

"The purchasing function requires careful re-examination. For eight years buyers have lived abnormal lives. Instead of fighting off peddlers' offers of entertainment, they have been buying the drinks for suppliers. During recent years their jobs have been selling jobs—begging favors from oversold sources of supply. Have you kept track of long distance telephone charges incurred by your purchasing department in 1947 as compared with those in 1938? Ours increased tenfold.

"Obviously, all purchase prices will be constantly reviewed in order to reduce material cost to the minimum. Outstanding commitments and delivery times will be radically reduced. Close competitive buying again is indicated. Observance of specifications and quality standard now can be enforced.

"Processing and manufacturing must be fully alerted to meet the challenge. Increased wages, plus large 'fringe benefits,' justifying restudy of all manufacturing operations. Better processing may pay big dividends through reduced labor cost, even though substantial capital costs are involved. In this area the economy has changed so rapidly that the equation that you worked out satisfactorily last year may need re-examination. In our own shop, for example, a battery of electric seam welders that cost $80,000 pays a big return on the investment, whereas a few years ago, we proved that the same equipment would be a bad buy.

"Our manufacturing organizations have acquired a lot of barnacles and accessories during recent years. These no longer serve a useful purpose. Many of them can profitably be eliminated. Material shortages multiplied stock chasers, 'expediters,' material control, and stock room personnel. Material defects multiplied inspectors. Indifferent workers increased the need for supervision and inspection. With respect to personnel, the watchword now must be 'Cut the quantity and improve the quality.'

"Perhaps your union representative will agree to get along with fewer shop stewards and to be more realistic about filing grievances and asking for arbitration hearings. Many opportunities will be found for reducing factory waste and scrappage, tool breakage, expense material, and supplies. Obviously, inventory turnover can be greatly increased. Quite suddenly we have moved from an era of 18 months' commitments to deliveries that can be made in something like 10 days.

"With considerable profit, higher quality standards can be established and maintained. Quality of materials is improving, and better work standards can be enforced. Improved inspection and test methods are in order. It is well to bear in mind the fact that, if you fail to do such things, your competitor may beat you to the punch.

"Under our changing economy, management must direct effective effort toward obtaining relief from government-imposed handicaps.

"Manufacturers' excise taxes can be inexpensively collected; therefore, they look good to the Treasury Department. However, they are not so good politically because they are not readily concealed from price-conscious buyers as are corporation taxes which are buried in the price of the product. From the viewpoint of the manufacturer and his salesmen, the excise tax is most objectionable because it is highly discriminatory and, therefore, places your taxed products at a disadvantage.

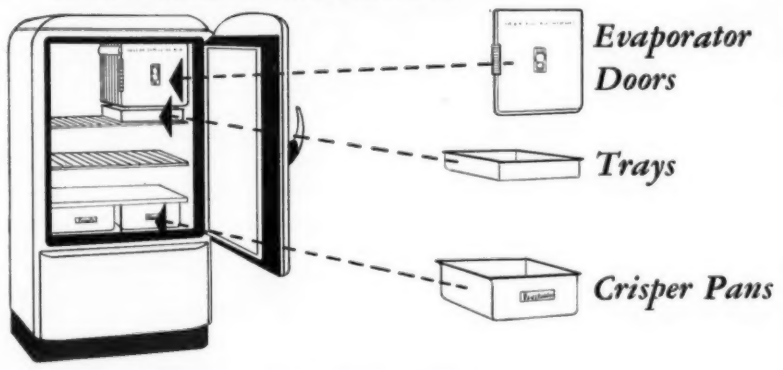
"There seems to be a rather remote chance of elimination or reduction of certain excise taxes. The objective justifies unremitting effort on the part of the manufacturer and those interested in the sale of his product, even though present attitudes of our lawmakers are not encouraging.

"Concerning the abnormal, reactionary buyers' market: it will evolve into a healthy, normal market much sooner if we succeed quickly in reviving the lost arts of sales management, sales organization, and salesmanship and support that revival with adequate, hard-hitting top management assistance.

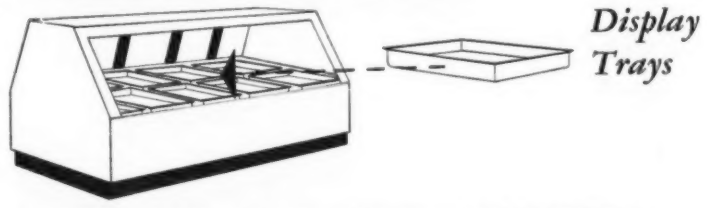
"That means marshaling behind sales every element of effective striking power of a revitalized, well-integrated organization. That means assisting sales with adequate appropriations and advertising support."

FOR *Your* PORCELAIN ENAMEL JOBS- A *Specialist* IS THE ANSWER

✓ HOUSEHOLD REFRIGERATORS



✓ COMMERCIAL REFRIGERATORS



✓ HOME AND FARM FREEZER ACCESSORIES

For over 20 years, The Strong Manufacturing Company has produced only top-quality porcelain enamel products—and are specialists in refrigerator accessories made to manufacturers' most exacting specifications.

You can depend on fast, efficient service, on-time deliveries, and quality geared to your production demands.

Send Us Your Specifications and Production Needs
or
Write for Complete Information

THE STRONG MANUFACTURING CO.
SEBRING, OHIO

When you use WOLVERINE TRUFIN

Wolverine Trufin (the finned tube whose fins are integral with the tube itself) provides the necessary surface area in just a small fraction of the space that plain tube demands to meet the same requirements in heat exchangers. That brings you the advantage of either operating with the same efficiency in much smaller space or gaining increased efficiency from the same sized equipment.

Trufin, remember too, is not affected by vibration or extreme temperature changes, which are added advantages that assure long, dependable performance.

Trufin is available in several alloys, in many fin heights and spacings, and in most popular sizes.

Send for our brochure that gives much helpful information regarding use of finned tube in heat exchangers.

WOLVERINE TUBE DIVISION
CALUMET AND HECLA CONSOLIDATED COPPER COMPANY
INCORPORATED
MANUFACTURERS OF SEAMLESS NON-FERROUS TUBING
1413 CENTRAL AVENUE • DETROIT 9, MICHIGAN

HOUSEWIVES GET "HET UP"

I DREAD THE THOUGHT OF STANDING OVER A HOT STOVE IN SUMMER!

SO DO I! YET I'VE HEARD THAT AN ELECTRIC RANGE KEEPS THE KITCHEN COOLER. I WONDER IF IT REALLY DOES

WHAT'S THE TRICK? A STOVE CAN'T COOK UNLESS IT'S HOT

LET'S GO IN AND FIND OUT

The Cool way to Cook Hot Meals is with an ELECTRIC RANGE

YOUR WINDOW DISPLAY SAYS AN ELECTRIC RANGE KEEPS THE KITCHEN COOL. HOW CAN THAT BE?

JUST STEP OVER HERE AND YOU'LL SEE FOR YOURSELF THAT **THE COOL WAY TO COOK HOT MEALS IS WITH AN ELECTRIC RANGE**

IN COOKING ELECTRICALLY YOU USE A DIRECTED FORCE INSTEAD OF A FLAME. THAT MEANS THE FAST HEAT OF ELECTRICITY IS DIRECTED TO THE COOKING OF FOODS, AND CONSEQUENTLY, THE KITCHEN STAYS COOLER

YOU MEAN IT'S FAST AND COOL, TOO?

I'M GLAD YOU MENTIONED THAT. MOST PEOPLE JUST NATURALLY ASSUME A REFRIGERATOR IS WELL INSULATED, BUT NEVER GIVE A SECOND THOUGHT TO INSULATION IN A RANGE. HOWEVER, THE ELECTRIC RANGE HAS AN OVEN THAT'S INSULATED ALL THE WAY

I SUPPOSE THAT DOES HELP TO KEEP THE KITCHEN COOLER

EVEN WITH THIS RANGE OVEN AT HIGH HEAT, YOU CAN PUT YOUR HAND ON THE COOKING TOP AND IT FEELS COOL TO THE TOUCH. YOU CAN HOLD YOUR HAND OVER A COVERED UTENSIL WHILE COOKING FOOD ON A SURFACE UNIT

BUT WHAT ABOUT THE PRICE OF AN ELECTRIC RANGE?

When cooking is cool—of course, it's electric! That's why . . . another million American families switched to electric cooking last year!

ELECTRIC RANGE SECTION
National Electrical Manufacturers Association
155 East 44th Street, New York 17, N. Y.

about COOL COOKING!

An Important message for Appliance Salesmen

YOU SEE, THE UTENSIL MAKES ACTUAL CONTACT WITH THE HEATING UNIT. THE HEAT GOES DIRECTLY INTO THE COOKING UTENSIL, WHERE IT'S WANTED. BUT THAT'S ONLY ONE REASON FOR KITCHEN COOLNESS WITH AN ELECTRIC RANGE...

UH HUH!

I'M BEGINNING TO GET THE IDEA

OH, YES...AN ELECTRIC RANGE IS SIMPLE TO USE. IT'S ECONOMICAL, IT'S CLEAN, SAFE, COOL...AND THERE'S NOTHING FASTER THAN ELECTRICITY FOR COOKING FOODS

THE IDEA OF ITS BEING COOL IS INTERESTING

WHAT'S THAT THING FOR?

THAT'S ANOTHER ADVANTAGE THAT MEANS KITCHEN COOLNESS...THE DEEP-WELL COOKER. IN HOT WEATHER IT LETS YOU COOK "ONE POT" MEALS...MEATS, VEGETABLES, EVEN DESSERTS...ALL AT THE SAME TIME

ALSO, THERE'S NO FLAME IN AN ELECTRIC OVEN, AND SINCE NO AIR IS NEEDED FOR COMBUSTION, IT CAN BE HEAVILY INSULATED ON ALL SIX SIDES. THIS KEEPS THE HEAT INSIDE. **THE COOL WAY TO COOK HOT MEALS IS WITH AN ELECTRIC RANGE**

I SEE...IT'S SORT OF LIKE AN ELECTRIC REFRIGERATOR IN REVERSE...KEEPS THE HEAT IN, INSTEAD OF THE COLD

THAT'S AN INTERESTING WAY TO PUT IT!

TWO SALES LATER

I WOULDN'T HAVE BELIEVED MY KITCHEN COULD STAY SO COOL... AND IT'S DUE TO MY ELECTRIC RANGE

I'VE REALLY WANTED ONE OF THESE FOR YEARS...AND IT'S ALL THEY SAID IT WOULD BE

80°

THAT'S HOW ONE SALESMAN MADE SALES CLIMB WHEN THE TEMPERATURE SOARED —BY EMPHASIZING THE FACT THAT **THE COOL WAY TO COOK HOT MEALS IS WITH AN ELECTRIC RANGE!**

THIS LED DIRECTLY INTO THE REST OF THE STORY—AUTOMATIC COOKING, NOTHING FASTER, CLEAN AS ELECTRIC LIGHT ITSELF, SAFE, MODERN AND CONVENIENT—<u>REALLY</u> ECONOMICAL.

ONCE HE'D EMPHASIZED THE FEATURE THAT WAS OF GREATEST INTEREST TO THE CUSTOMER, THE ELECTRIC RANGE PRACTICALLY SOLD ITSELF!

ADMIRAL • COOLERATOR • CROSLEY • FRIGIDAIRE
GENERAL ELECTRIC • GIBSON • HOTPOINT
KELVINATOR • LEDO • MONARCH • NORGE
QUALITY • UNIVERSAL • WESTINGHOUSE

They'll Do It Every Time . . . . By Jimmy Hatlo

WHEN BUSINESS WAS NOT SO HOT, MESSRS. FUME AND FRETT MADE MISS POTHOOKS THE SPOKESMAN FOR THE FIRM...
IT'S THE GUY FROM THE FINANCE CO! STALL HIM OFF! YOU CAN HANDLE HIM.. GIVE HIM THE OL' SONG AND DANCE..
TELL HIM WE'RE AT THE BANK, CLOSING A BIG DEAL..BETTER SAY AN OUT-OF-TOWN BANK...
NO! I INSIST! AS SENIOR MEMBER OF THE FIRM I WILL TAKE OUR CHECK OVER.. IT WILL LOOK BETTER, COMING FROM ME...
BUT NOW THINGS ARE PRETTY GOOD..SO WHO HANDLES THE ACCOUNTS PAYABLE? HEH-HEH! MUST YOU ASK?
I BELIEVE IN PAYING BILLS PROMPTLY..I'LL TAKE THIS CHECK OVER TO FLYING SAUCERS, INC., MYSELF.... IT'S MORE PERSONAL..
5-27
THANK TO "SECRETARY," CHICAGO, ILL.
JIMMY HATLO
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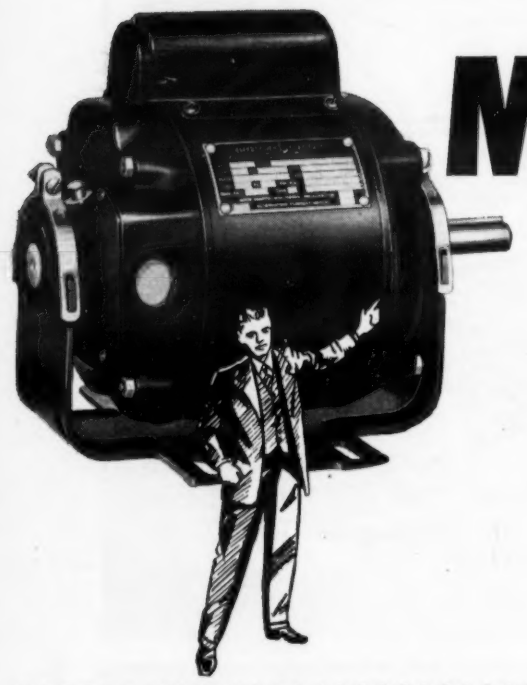
Do You Have 'One Foot In the Door'?

YOURS for the asking . . .

EMERSON-ELECTRIC

MOTOR FACTS



If You Have Applications for Motors, 1/20 to 5 H. P., You Can Use One or More of These Practical Data Bulletins

Here's motor information that Electrical Engineers and Appliance Manufacturers can *use!* Packed with pertinent specifications, construction details, and performance data, these Emerson-Electric Motor Bulletins furnish an authoritative reference guide in the selection of motors best suited to your applications. Emerson-Electric Motors are built to NEMA dimensional and operating standards. A request on your letterhead will bring you the Bulletins desired.

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Complete information on a full line of general-purpose motors from 1/6 to 3/4 H.P. Suitable for many types of pumps, compressors, machine tools, blowers, and other applications requiring a single-phase fractional H.P. motor.

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INTEGRAL MOTORS
Emerson-Electric Integral Motors up to 5 H.P. are fully described, with construction details, performance curves, and dimensional data. Included are repulsion-induction, repulsion-start induction run, polyphase, and D.C. motors for a wide variety of applications.

JET PUMP MOTORS
This bulletin gives construction features, performance curves and dimensional data on motors developed especially for direct-drive jet pumps. The heart of a jet pump is the motor that powers it . . . an important reason for specifying motors that embody every dependable feature and design improvement achieved by a pioneer manufacturer of pump motors.

No. 115-N.

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AIR CONDITIONING AND REFRIGERATION News

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F. M. COCKRELL, *Founder*

Published Every Monday by BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924.

Subscription Rates: U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $5.00 per year; 2 years $8.00. All other foreign countries: $7.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Please send remittance with order.

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VOLUME 57, NO. 14, SERIAL NO. 1,063, AUGUST 1, 1949

Hoover Commission Says Postal Service Costs Too Much

LET'S take politics out of the postal service and the postal service out of politics. That's what the Hoover Commission recommends in one of its monumental reports to Congress on waste in bureaucracy. We can divorce politics from the postal service by barring any official of a political party, such as a party national committee chairman, from serving as postmaster general; and by selecting postmasters on a merit basis. By so doing we can save taxpayers hundreds of millions of dollars. More than 23,000 postmasters, the Hoover Commission asserts, are politically appointed. This situation constitutes a real barrier to promotion within the postal service, and thus deprives its minions of natural incentives to do better work.

Our post office is one of the world's largest businesses. It employs 500,000 persons, operates 10,000 trucks, manages 24,000 buildings, and grosses one and a third billion dollars per year in revenue. But this big business isn't managed by businessmen. It's footballed by politicians.

Its administrative structure is obsolete. That's for sure. And a maze of out-moded laws, regulations, and traditions freezes progress and stifles initiative among postal employes. It lacks the freedom and flexibility essential to any good business operation, in consequence. Bookkeeping charges against the U. S. Postal Dept. hide subsidies to every variety of national transportation—airlines, railroads, maritime ship operators, and internal barge lines—also helicopters and "special delivery" bicyclists. Post office bookkeeping is in the hands of the government's general accounting office, and is available to departmental inspectors (for so-called management purposes) only after months of delay. Furthermore, their methods of budgeting and appropriating and accounting—once they're allowed to see the figures—are entirely unsuited to a business of the size and character of the U. S. Postal Department.

President Truman consistently has supported the Government Reorganization Commission—which is headed by our only living former President, Herbert Hoover. Already he has agreed, whether deliberately or not, that this commission's recommendations as to the reorganization of the postal department should be validated quickly. For once, Truman is on the beam.

The Hoover Commission insists that the postmaster general should be relieved of "details of day-to-day operating duties" so that he can be "free to determine departmental and public policies." Other recommendations of the Hoover Commission: Decentralize postal service into 15 regions under regional directors and district superintendents. Set up a national board of seven advisors on postal matters, to be appointed by the President. Institute a businesslike budget, an honest accounting procedure, and a realistic audit. Revise laws and regulations governing the postal service to simplify the whole operation. Impose rates on registered mail, insured mail, money orders, postal notes, postal cards, special delivery, and collect-on-delivery mail to make each of these expensive special services self-supporting. Bring postal subsidies to transportation combines out in the open; and pay off these bribes through honest appropriations from general tax funds instead of imposing them on mail users in a hidden manner.

Biggest hidden subsidy, according to the Hoover Commission, is that paid to airlines for transporting air mail. This subsidy is fixed by the Civil Aeronautics Board. The Hoover Commission states: "These subsidies may be most desirable, but should be paid in a way that the President, the Congress, and the public may know what the amounts of the subsidies are."

For decades the U. S. Post Office Dept. has been wallowing in a political quagmire. No wonder it doesn't pay its own way! Honest accounting, plus a righteous cleaning out of political deadwood from its payrolls, could produce quite a satisfactory result for our nation's heavily-burdened taxpayers. It's time to clean the Augean Stables.

A. E. Borden C. E. Borden

* * *

A.E. Borden Co. Franchised As Parts Depot for G-E

BLOOMFIELD, N. J.—A. E. Borden Co., which as of Aug.. 1 will occupy new offices at 176 Brookline Ave., Boston, Mass., with customer sales facilities at 1383 Boylston St., has been franchised as a parts depot for G-E refrigeration condensing units and parts, it was announced recently by the General Electric Co.'s air conditioning department.

As a parts depot, the Borden company will handle the sale of G-E condensing units up to and including 10-hp. It will also stock repair and replacement parts for all G-E condensing units, as well as G-E sealed condensing units for replacement purposes.

The firm will serve the area including Maine, New Hampshire, Rhode Island, and parts of Massachusetts.

Approximately 60 similar parts depots have been set up throughout the country by General Electric to promote the sale of condensing units and to facilitate the distribution of renewal parts to fixture and equipment manufacturers' customers, wholesalers, retailers, and servicers.

The Borden company was established in Boston in 1923, by A. E. Borden, who is still president. The firm has been in the refrigeration and air conditioning field since 1930, and in 1946 entered the gas fittings field. The company is a charter member of the Refrigeration Equipment Wholesalers Association and a member of the National-Propane Association.

Vice president and general manager of the organization is Chester E. Borden. Albert W. Nelson is sales manager of the equipment division; and Madison Gilman, Chester Brigham, and James Dawson are territorial representatives.

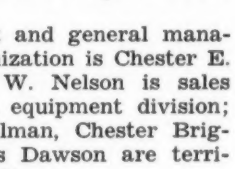
Other key members are Eric Larsen, who is in charge of bottled gas equipment sales and general industrial sales outside metropolitan Boston, and Norman Honnecker, refrigeration sales engineer who is an R.P.I. graduate and formerly design engineer and later branch manager of Fedders Mfg. Co.

George DiBenedetto heads refrigeration sales in areas of Massachusetts and all of Rhode Island. Iver Jacobsen is in charge of metropolitan Boston industrial equipment sales, and Leo Heffernan is manager of the Portland, Me., branch office.

Firm Names 2 Carolina Agents

CHARLOTTE, N. C.—Allison-Erwin Co., distributor of major appliances, here has appointed E. F. Lindgren, Jr., as sales representative in the Charleston, S. C. area and James A. Lewis as sales representative in the Asheville, N. C. territory.

MOTOR-BASE ADAPTERS



A combination hard to beat: a new motor and a set of motor adapters to make it fit.

⅛ to ⅓ hp.—101-D
½ to ¾ hp.—102-C
1 to 3 hp.—103-C

SERVICEMEN SEE YOUR JOBBER

Motor Adapter Corporation
4730 JOY ROAD
DETROIT 4, MICHIGAN

Q. How Can Air Distribution System Obtain 50-Ft. Throw In Room with Low Beams?

Atlantic Refrigeration Service
Mt. Vernon, N. Y.

Dear Mr. LaSalvia:

Can you tell me of a way to direct the air to get a throw of 50 ft. in a room 16 x 50 x 11 high, which has "I" beams across the room. The discharge is a Tuttle & Bailey double deflection grille 1 ft. from the ceiling and the first "I" beam is 20 ft. from this grille. This "I" beam catches the air and causes it to drop down sharply.

Directing the air under this beam gives us a throw of about 35 ft., fan running at highest speed with ½-hp. motor.

Also on this job all ducts and cooling unit (AC5 Kramer) are located in the kitchen and are not insulated. How much heat do you think they will pick up, temperature at duct height being about 115° F.?

C. VALENTINE,
Manager

A. Top of Moderately Sized Grille Should Be Positioned About 1 Ft. Below Beams

Dear Mr. Valentine:

In answer to your letter here is a problem that shows the importance of air distribution to an air conditioning system.

In the first place, this was a wrong approach to deliver air for 50 ft. with the height of grille of only 10 ft. above the floor. This is not good practice. For 50-ft. throw the grille should be at least 12 ft. above the floor.

In the second place, the top of the grille is even with the bottom of beams, which is not proper. In such cases the top of grille should be no less than 6 in. and preferably 1 ft. below beams.

In the third place, the grille looks to be too big and thereby has a low velocity which drops the end of the air stream 35 ft. from grille instead of 50 ft.

This can be remedied but the noise level of the air stream will increase. If the noise level is not objectionable, I recommend the following:

1. Lower the entire unit down 1 ft. which will lower the height of grille above floor.

2. Change the size of grille to any of the following sizes. (Not knowing what c.f.m. the unit is delivering, I am listing a group, one of which should fit your problem.)

C.f.m.	Size of Grille
1,000	14 x 8 or 18 x 6
1,250	16 x 8 or 22 x 6
1,500	20 x 8 or 26 x 6

Use double deflection grille but of the straight-way type.

Your second point in the problem can be determined only in a general way as not enough information has been given.

Assuming the following:

a. The unit is 4 ft. wide, 2 ft. high, and the distance from the air filters to the discharge side of fan is 4 ft. The perimeter in square feet is 56.

b. The temperature of the kitchen is 115°.

c. The dry-bulb temperature of the air leaving the cooling coil is 60°.

d. The "U" coefficient of transmission for sheet metal is 1.5.

e. The unit is delivering 1,000 c.f.m.

Then, 56 x 1.5 x (115° — 60°) = 4,620 B.t.u. heat gain.

$$\frac{4{,}620 \text{ B.t.u.}}{1.08 \times 1{,}000 \text{ c.f.m.}} = 4.3°.$$

The loss in temperature to the air stream is between 4° and 5°.

The above information should help you out with this problem.

JAMES J. LASALVIA

Sales, Profits Rise for 6 Mos. At Minneapolis-Honeywell Co.

MINNEAPOLIS — Minneapolis-Honeywell Regulator Co. has reported a net profit of $2,443,879, equal to $1.79 a common share, for the six months ended June 30, compared with $1,684,670, or $1.21 a share, for the like 1948 period.

Sales in the first 1949 half totaled $29,700,950, against $24,569,353 in the comparable period of last year.

For the quarter ended June 30, the company reported a net profit of $1,102,721, equal to 80 cents a common share.

Casey Heads Madison Dealers

MADISON, Wis.—The Madison Appliance Dealers Association recently re-elected William I. Casey its president and elected the following officers: Richard Hintz, vice president; Harold Frye, treasurer; and Edward Felber, secretary.

ASRE STANDARDS

Widely Used and Accepted as Recommended Practice in Refrigeration and Air Conditioning

#13	METHODS OF RATING AND TESTING AIR CONDITIONING EQUIPMENT (supplemented by Standard #25—not sold separately) both for	75¢
#14	METHODS OF RATING AND TESTING MECHANICAL CONDENSING UNITS	50¢
#15	SAFETY CODE FOR MECHANICAL REFRIGERATION	50¢
#16R	METHODS OF RATING AND TESTING AIR CONDITIONERS (proposed)	50¢
#17R	METHOD OF RATING AND TESTING REFRIGERANT EXPANSION VALVES	50¢
#18	METHODS OF RATING AND TESTING SELF-CONTAINED MECHANICALLY REFRIGERATED DRINKING WATER COOLERS	35¢
#19	WATER CONTENT LIMITS FOR REFRIGERATING SYSTEM PARTS	35¢
#20	METHODS OF RATING AND TESTING EVAPORATIVE CONDENSERS	75¢
#22	METHODS OF RATING AND TESTING WATER COOLED REFRIGERANT CONDENSERS	40¢
#24	METHODS OF RATING AND TESTING WATER AND BRINE COOLERS	40¢
#25	METHODS OF RATING AND TESTING FORCED CIRCULATION AND NATURAL CONVECTION AIR COOLERS FOR REFRIGERATION (supplement to Standard #13—not sold separately) both for	75¢
#26	RECOMMENDED PRACTICE FOR MECHANICAL REFRIGERATION INSTALLATIONS ON SHIPBOARD	$1.00
Complete set of all above, paper bound		$4.50

Send orders with remittance or COD instructions to

The American Society of Refrigerating Engineers
40 WEST 40 STREET NEW YORK, N. Y.

FOR BETTER PERFORMANCE

Install

DRIER-FILTER-STRAINER

Offers 100% protection for refrigeration systems. Quickly removes moisture, sludge, dirt, scale, solder particles and other troublesome impurities. Stops particles as small as 5 microns without appreciable pressure drop. Improves valve action and system performance. Silica Gel Drying Agent is "rechargeable" in larger units. All sizes up to 3 tons. Write for latest bulletins.

STOCKED AND SOLD BY GOOD REFRIGERATION WHOLESALERS EVERYWHERE . . .
RECOMMENDED AND INSTALLED BY LEADING REFRIGERATION SERVICE ENGINEERS

DEPENDABILITY
is a good component of YOUR product

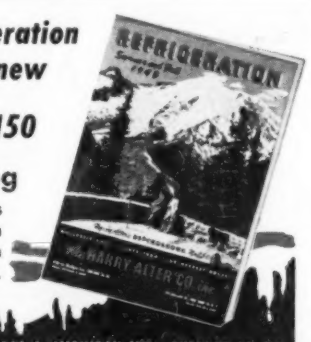
AUTOMATIC PRODUCTS COMPANY
2450 North Thirty-Second Street • Milwaukee 10, Wisconsin
Export Department, 13 East 40th Street, New York 16, N. Y.

If You're Interested in Refrigeration You'll want a copy of the new

DEPENDABOOK No. 150

Refrigeration Parts Catalog

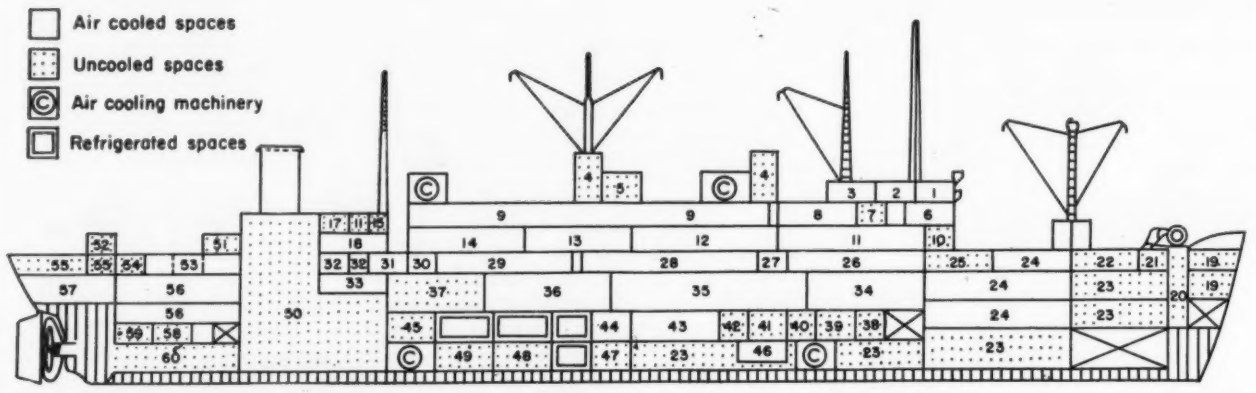
DEPENDABOOK Number 150 is jammed full of illustrated refrigeration parts and supplies at rock-bottom prices... Depend on DEPENDABOOK. Write for your copy.



"Service doesn't falter when it comes from Harry Alter"

WHOLESALE ONLY **The HARRY ALTER CO.** 1728 S. MICHIGAN AVE., CHICAGO 16, ILL. 134 LAFAYETTE ST., NEW YORK 13, N. Y.

U. S. Navy Studies Stress Advantages of Air Conditioned Ships In Tropics



Cooled spaces and location of air conditioning machinery in a U. S. Navy hospital ship of the Haven class are shown diagrammatically above. Key to figures follows:

1. Pilot house; 2. Chart house; 3. Radio room and communications office; 4. Elevator trunk; 5. Animal house; 6. Captain's cabin (S), Senior Medical Officer's cabin (P); 7. Captain's and Senior Medical Officer's Pantry; 8. Nurses' quarters; 9. Sick officers' quarters; 10. Officers' and nurses' pantry; 11. Wardroom mess (S), nurses' mess (P).

12. E.E.N.T. ward (S), Orthopedic ward (P); (13) Genitourinary ward (S), Dermatology ward (P); 14. Isolation wards (4); 15. Fan room; 16. Battery charging station; 17. Trash burner; 18. 1st lieutenants' offices, radio and entertainment broadcasting central; 19. Boatswains' stores; 20. Chain locker; 21. Canvas work shop; 22. Carpenter and sheet metal work shop; 23. Medical stores; 24. Officers' staterooms; 25. Officers' and nurses' galley.

26. Neuropsychiatry wards (P & S); 27. Surgical dressing rooms (P & S); 28. Surgical wards; 29. Medical wards; 30. Surgical dressing room (P), Medical Officer of the Day's office (S); 31. Lobby; 32. Ship's service stores; 33. Hospital corpsmen's berthing; 34. Ambulatory wards (P & S); 35. Medical Department offices (S) operating room suite (P); 36. Crew's mess; 37. Galley, bakery, and main diet kitchen.

38. 1st lieutenants' stores; 39. Small stores (S), electrical stores (P); 40. Electrical work shop; 41. Chaplains' stores; 42. Prison; 43. E.E.N.T. clinic and O.R., Phsysiotherapy and dermatology clinic (S) Dental Clinic and X-ray (P); 44. X-ray (P), passage and stores; 45. Evaporator flats; 46. Autopsy room; 47. Acid, alcohol, and narcotic storage.

48. Officers' mess stores; 49. Turbogenerator room; 50. Machinery casing; 51. Disinfecting room; 52 Fan room; 53. Officers' supply, disbursing, engineering ships; 54. Linen room; 55; Laundry; 56. Crew's berthing; 57. Steering engines; 58. Inflammable liquids locker; 59. Gasoline stowage; 60. Shaft alley.

FLOATING HOSPITAL: *Several Factors Involved In Operation of Cooling System*

The air conditioning system in the U. S. Navy hospital ships of the Haven class consists of a direct-expansion "Freon-12" system involving 53 cooling coils and eight condensing units. The compressors and condensers are hooked up as four pairs placed in four widely separated locations, the compressors being so arranged that if one should fail the other can handle both systems.

There are 25 circulating systems throughout the ship, the air moving across the coils at 550 f.p.m. A small quantity of outside air is admitted to the system either directly by means of recirculating blowers or by a separate supply system connected to the return air duct. The air to be exhausted is usually drawn from heads, passageways, or diet pantries. These spaces are supplied by air which enters from adjoining spaces by way of louvers in the doors or bulkheads.

The cooling coils are provided with lucite cleanout plates so that the coil can be readily inspected.

Thermostats in the recirculating duct control the air temperature. Upon the demand for cooling, the thermostat opens a solenoid in the liquid line to the coil.

Special efforts were made to reduce the noise in the operating room. Large mufflers were installed on the exhaust intakes in the operating rooms, and the blowers secured on rubber mountings.

Air conditioning men in general will also be interested in the instruction on properly operating and maintaining the air conditioning systems on the Haven class hospital ships. These instructions, prepared by R. L. Swart after a test cruise on the *U. S. S. Tranquillity*, were forwarded to the commanding officers on all six ships in the class:

RECIRCULATING FANS

"(1) These fans should be continuously operated at all times as the load on each of the compressors is based on continuous operation of all fans on each system. When one or more fans of a system are shut down for long periods of time, the compressors for the system should be operated on slow speed to compensate for the reduction in load. If compressors are operated on high speeds under these conditions, the compressor will short cycle which may result in motor failures or high effective temperature within the remaining spaces.

"(2) The actual air quantities for the recirculating systems are in excess of the designed air quantities and the attendant high velocities cause moisture carry-over from the coils. All systems should therefore be operated on slow speed at all times with the exception of the following:

01-54
02-104
02-106
02-147

"Outside weather conditions permitting, all recirculating systems may be operated on high speeds providing the compressor plants are not operated.

THERMOSTATS

"The thermostats should be set to maintain a dry-bulb temperature of approximately 85° F. The resultant wet-bulb temperature will depend upon the number of personnel in the compartment and other source of moisture present. The thermostat setting may be lowered if desired when the vessel operates for a prolonged period in moderate climates. The reduction in load, when operating under these conditions will probably require slow speed operation of all compressors to prevent short cycling. Resetting of thermostats should be avoided as much as possible.

AIR CONDITIONING COMPRESSORS

"(1) The compressors should be operated on their individual systems and on high or slow speed as necessary to maintain a suction pressure between 35 and 40 p.s.i.g. and a head pressure of approximately 125 p.s.i.g. Operation of the compressors at suction pressures above 40 p.s.i.g. results in an evaporator temperature above that for which the coils were designed and will result in higher temperatures within the spaces cooled.

"(2) Each set of compressors is cross-connected as an emergency measure, however, when the plant load is light due to operation in moderate climates, one compressor can be operated on the two systems to prevent short cycling. The plant should not be operated in this manner, except in case of emergency, if the suction pressure exceeds 40 p.s.i.g.

"(3) Compressor plant No. 3 operating on the coils in crew's mess and Medical Ward C6 is fully loaded only when the mess hall is occupied at chow time or during movies. Best results will be obtained if this plant is operated on high speed about one hour before chow time and about one half hour after chow time, otherwise the plant should be operated on slow speed. The plant should remain on high speed following the evening meal on evenings when the mess hall is to be used for movies.

"(4) The compressor low pressure cut-out should be set to cut out between 20 to 25 p.s.i.g. and to cut in at from 60 to 70 p.s.i.g. Compressor off cycles of 8 to 10-minute intervals should not be considered as excessive.

EXPANSION VALVES

"(1) The superheat setting of expansion valves can be checked by observing the suction line temperature at the stop valve in the suction line at the coil. Insert a screw driver between the insulation and the valve flange to make a hole for the thermometer. The thermometer should register a temperature of about 12° to 15° F. above the temperature corresponding to the suction pressure at the compressor. No additional allowance should be made for a pressure loss between the coil and the compressor which usually amounts to from 3° to 5° F.

"(2) All expansion valves should be checked periodically for faulty operation to be certain that liquid 'Freon' does not flood back to the compressor.

"(3) Hand expansion valves should be used only in cases of emergency and should not be left open for extended periods of time especially when a compressor cycles due to light loads. Hand expansion valves which remain open when the compressor cycles causes a liquid floodback on the compressor during the off cycle. Likewise, a hand expansion valve opened too wide on a system on which the compressor is operating continuously will cause liquid to flood back on the compressor. Liquid flooding back on a compressor may result in a machinery derangement.

VENTILATION SYSTEMS (Other Than Recirculating)

"(1) The operation of ventilation systems affects the performance of the air-conditioning systems if improperly operated. If, for instance, the exhaust system in the galley is operated when the supply system is shut down, all of the cool air from the crew's mess will be exhausted to the weather by the galley exhaust system and a load exceeding the design load will be put on the air-conditioning plant. It is necessary that supply and exhaust fans serving spaces other than air conditioned spaces be operated simultaneously and similarly, i.e., both on high speed or both on low speed, at all times.

"(2) An increased load is also placed on the compressors when hot air is drawn into the recirculating systems and it is necessary to keep all weather and hot engineering and commissary access doors closed at all times. It is recommended that the following be stenciled on both sides of all access doors to air conditioned spaces: 'Keep This Door Closed When Air Conditioning Is In Operation.'

"(3) Frequently, ventilating systems operate improperly due to dirty coils, grease filters, screens, etc. A check-off list is probably the best method of preventing faulty operation of ventilation systems from dirt and grease accumulation. Grease filters and laundry tumbler drier screens should be cleaned daily and coils and insect or other screens should be cleaned as frequently as found necessary. Regular inspections should be made of these parts from a check-off list.

GENERAL

"There are many items which can be placed under this heading which will greatly assist in the proper operation of the air conditioning plants. A few of these are listed below:

"(1) Frequently the number or size of light bulbs in a space are increased or existing high wattage lights are permitted to remain on when not in use. This practice will result in increased load on the air conditioning systems and will increase the temperatures in the space in which lights are so changed. Excessive illumination should be avoided.

"(2) The removal of cleanout plates in duct systems to improve ventilation in a compartment should be discouraged as this practice not only unbalances a system but results in high and uneven temperatures in various air conditioned spaces served by the system.

"(3) Likewise, the removal of diffusing terminals will result in unbalancing a system and the practice should be discouraged.

"(4) Moisture carry-over in many instances can be traced to fouled drain line. The fouling of drain lines is caused by dust and lint being deposited on the cooling coils and being carried to the drain pan by the condensate. The drain lines should be flushed or cleaned as frequently as necessary.

"(5) Use of gauze or other material for filtering devices should be discouraged. If dirt is discharged from terminals it is apparent that the system needs cleaning.

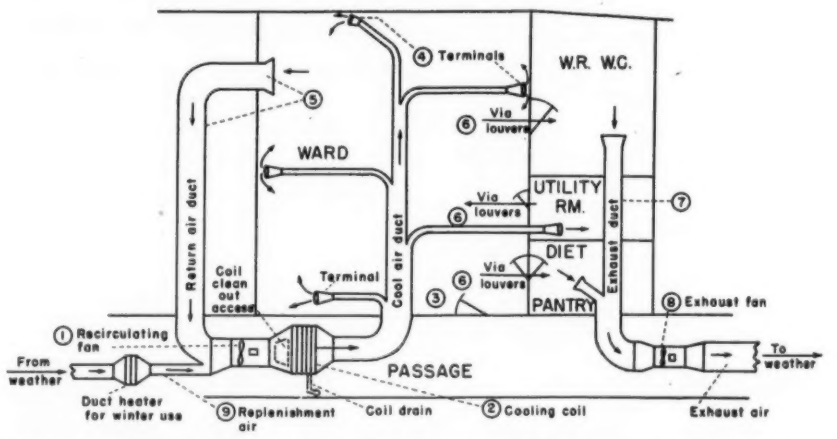
"(6) No attempt should be made to readjust air quantities as it is difficult to rebalance a system once it is unbalanced by readjusting air quantities.

"(7) Curtains to staterooms should remain partially open as the access is a natural exhaust air opening for the staterooms.

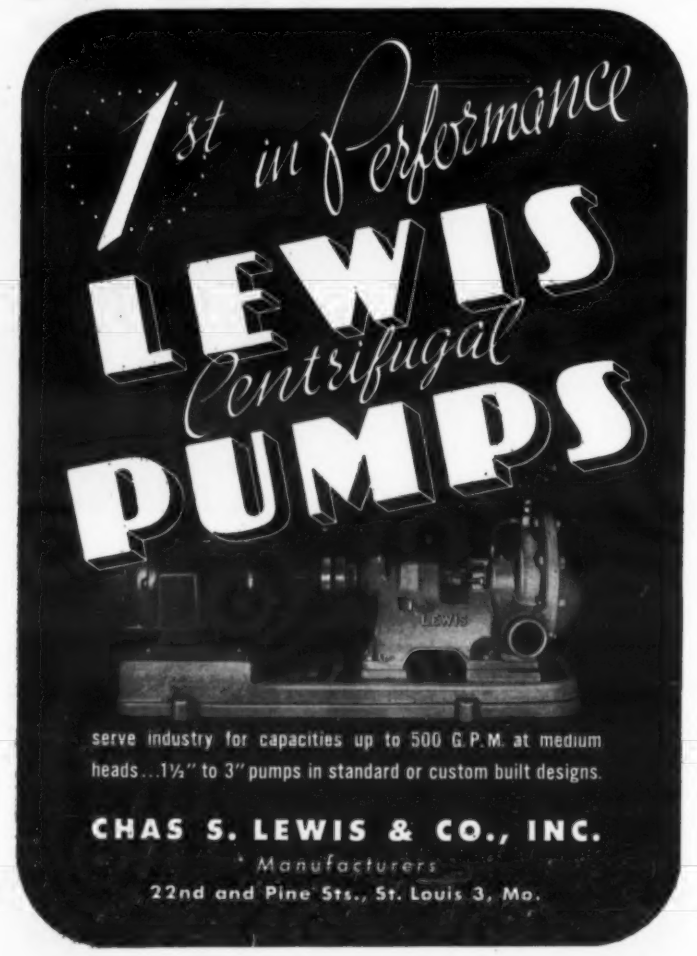
"(8) 'Freon' joints should be checked frequently for leaks to prevent unnecessary plant shutdowns.

"(9) Tampering with or adjusting controls by unauthorized personnel should be forbidden. Many instances of faulty operation can be traced to tampering."

How Wards and Companion Spaces are Cooled



Typical cooling system of wards and companion spaces on U. S. Navy hospital ships of the Haven class shows the location of the main elements.



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COOLING NECESSARY: *For Berthing Spaces of Ships In Tropics, U. S. Navy Told*

BETHESDA, Md. — "In order to provide conditions for proper and adequate rest the effective temperature in berthing spaces should be kept below 78° F. E. T.," and "in order to achieve these conditions in the tropics it is necessary that mechanical cooling of berthing spaces be employed."

This was one of the many conclusions reached after extensive studies on the advisability of air conditioning ships of the U. S. Navy conducted by the Naval Medical Institute here.

The studies were made not only in the laboratory but aboard ship, including some with air conditioned quarters. The research program was designated as Project X-205, eight reports of which have been made.

In report No. 3, "Physiological Observations Made on Men Aboard Ship During a Shakedown Cruise in Tropical Waters," the conclusions mentioned in the opening paragraph were drawn by Lt. Nello Pace, Lt. Comdr. W. V. Consolazio, and Capt. A. R. Behnke.

Twenty crewmen volunteered for this study, which was made aboard the aircraft carrier *U. S. S. Franklin* during her shakedown cruise in the spring of 1944.

HEAT REDUCES OUTPUT

"On interviewing various division officers aboard the ship, the unanimous response was obtained that the work output of the men was markedly less as the ship reached the tropics," the report stated. "Furthermore, casual observation during the day revealed large numbers of enlisted men in various out-of-the-way places about the ship lying directly on steel decks below-decks, and in spite of heat, noise, and vibration were apparently asleep. . . .

"There is no doubt that the crew of a ship can fulfill their usual duties for short periods efficiently in the tropics with the present ventilation. It seems equally apparent, however, that this is done with greater individual effort and that initiative is greatly reduced. . . .

"Not only is outside air heated when it enters the ship, but appreciable water vapor is added to it, so that the absolute water content is increased. Thus, under present optimal ventilation by air movement alone, the dry bulb temperature is increased by 7.8° F. and the absolute water content is increased by 20.2 grains per pound or approximately 20%.

"Although the addition of heat to incoming ventilation air has been stressed and recognized as a problem, the addition of water vapor has not been stressed and yet presents a physiological problem equal to temperature rise. . . .

"Even with the best mechanical ventilation sleep will be interfered with by sweating. It would thus appear necessary to resort to mechanical cooling of air for berthing spaces in order to provide a physiological acceptable level of 78° E. T.," conclude the authors of report No. 3.

MAXIMUM TOLERATION

The first report in the series, made by Lt. Comdr. C. P. Yaglou, established maximum levels of dry bulb temperature and relative humidity which could be tolerated by human beings under continuous exposure. In tabular form these tolerances are as follows:

Relative Humidity (%)	Maximum Dry-Bulb Temp. (°F.)
100	90
80	94
60	99
40	105
20	116

How air conditioning for 12 hours or less a day can effectively prevent the occurance of heat rash and its attendent discomfort and inefficiency among naval personnel in a tropical climate was brought out in report No. 2 entitled "A Comparative Study of the Effect of Men of Continuous Vs. Intermittent Exposure to a Tropical Environment."

Two groups of six men each lived in an 85° effective temperature (90° F. dry bulb and 83° F. wet bulb) for nine hours daily in this test. One group, the "hot" or continuous exposure group, remained at this temperature for 12 hours at night. The other ("cool") group spent 12 hours at night in an effective temperature of 75° (80° d.b., 70° w.b.). Both groups spent the remaining three hours of the day performing treadmill work tests in an effective temperature of 90° (108° d.b., 83° w.b.).

Numerous physiological and psychological tests were made during the 30-day project, but "of all the objective findings under the conditions of this study, the most striking and perhaps the most important was the difference in incidence of heat rash in the two groups. The fact that the very high incidence of heat rash in the hot group could be prevented in the cool group by intermittent cooling is of high practical significance," declared the seven officers who conducted the program.

"The other objective measures in which a difference between the groups was apparent were the higher basal rectal temperature of the hot group, the higher basal pulse rate, and the higher rate of water loss from the body. . . .

"In addition to the objective findings, certain general observations were made. The members of the hot group reported greater difficulty in getting to sleep and more physical complaints. They also exhibited less spontaneous activity and an appearance of lassitude.

OBSERVATIONS IN FIELD

"Although these observations are admittedly subjective, they are in agreement with observations made in the field under comparable environmental conditions, and must be considered in any evaluation of the effects of prolonged exposure to tropical heat. Their importance, however, either in the laboratory or in the field, is difficult to assess. . . .

"A question still remains as to whether exposure to 85° e.t. can go on for longer periods than 30 days without deterioration becoming demonstratable."

In addition to such laboratory tests as the above, Project X-205 included studies on actual shipboard installations of air conditioning, including the hospital ships *U. S. S. Tranquillity* and *U. S. S. Consolation*, and the battleship *U. S. S. Washington*.

"The air-cooled hospital ship has become a recognized necessity in tropical areas for the proper treatment of patients," states Capt. A. R. Behnke in report No. 4 entitled "Environmental and Physiologic Studies Aboard Two Air-Cooled Hospital Ships En Route from Norfolk, Va., to the Canal Zone."

"Although statistics are not at hand to indicate the deaths or retarded recoveries of patients in ships not air cooled operating in tropical areas, medical officers on such ships have stated that high temperature and humidity are major factors in prolonging disability and in increasing mortality of the sick and injured, particularly the burned. Even healthy men subjected continuously to high temperatures show a large loss of fluid and salt and an increased pulse rate indicative of cardiovascular stress," declared Capt. Behnke.

DESIGN LIMITATIONS

"In designing an air-cooling system for a ship, the engineer is hampered by certain limitations. The amount of cooling equipment he can put aboard, due to weight and other military considerations, is restricted. The Haven class hospital ship, a cargo transport converted into a floating hospital with all hospital and living spaces air-cooled, is therefore of considerable interest. The cooling system aboard this class of ships is designed to maintain an effective temperature of 76° in tropcial waters. . . ."

(The air conditioning layout in the Haven class ship is described and illustrated in an accompanying article.)

"The chief benefits derived from the relatively cool living atmosphere under conditions of tropical operation

(Concluded on next page)

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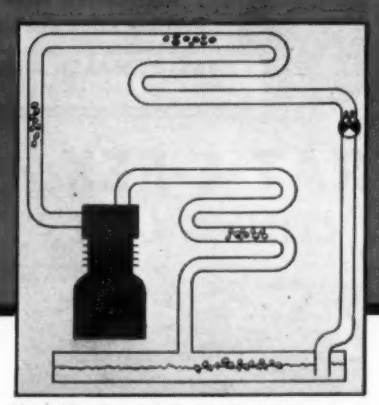
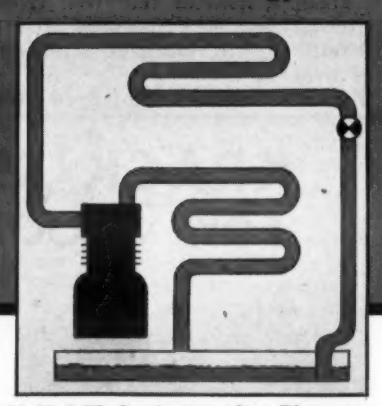


10 A.M. Just before Thawzone is added. Specks are moisture.



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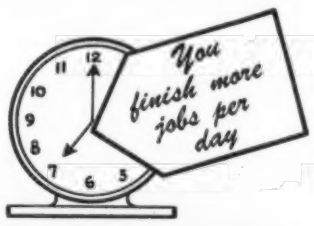

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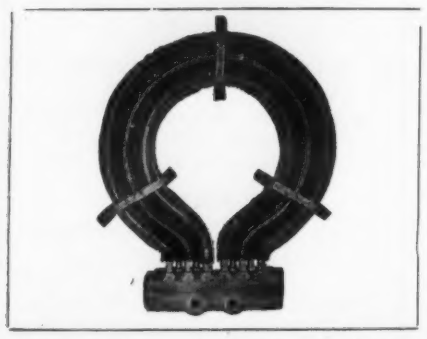

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Air Conditioning Improves Efficiency of Crewmen by Permitting Adequate Rest

(Concluded from preceding page)

were minimal odor in the berthing spaces, absence of sweating in the resting state, absence of heat rash, fewer skin infections, sustained motivation and initiative, and the ability to work that is characteristic of men in a cool environment.

"Outstanding was the fact that personnel could secure adequate rest and sleep in the berthing spaces in the period allotted for sleep," Capt. Behnke said. "Men were alert on awakening in contrast to the transient stupor frequently observed in those men sleeping in mechanically ventilated spaces in the tropics.

"The contrast between the heat of Panama and the relatively cool air within the ship was especially stimulating. At the start of the cruise some difficulty was experienced in persuading the crew to keep ports and weather access doors closed, but in Panama no special effort was needed. . . .

"The odor level was extremely low in the hospital corpsmen's and crew's berthing spaces, probably due to the absence of sweating, the relatively dry bedding, and the removal of odoriferous material by the cooling coils. In mechanically ventilated ships, odors in such spaces reach objectionable levels," asserted Capt. Behnke.

"In the best ventilated, but not cooled, berthing space where approximately 40 cu. ft. of outside air are supplied per man, air temperatures are 7° to 10° above weather air temperature and the humidity is increased due to moisture uptake within the ship to give a difference of about five units in effective temperature.

"In the air-cooled ship, the weather temperatures (average 78° e.t.) are seldom exceeded by the compartment temperature, and its possible to reduce the outside air supply from 40 to 7 or less c.f.m. per man in the interest of economy without deleterious effects or discomforts.

"Air cooling in which considerable quantities of moisture are condensed out of the air appears to be effective in removing odors," Capt. Behnke also declared. "Whether it is adequate to take care of the odors associated with certain types of patients is not known. It is possible that individual charcoal units will be required for such patients.

'CHILLING' OPPOSED

"There is a tendency, especially notable before personnel become acclimatized to tropical heat, for those operating the cooling system to attempt to maintain a 'chilled' atmosphere. This results in too great a difference between weather and compartment temperatures and is thought to predispose to infection of the respiratory tract," he cautioned.

"Studies of the Effects of Air Cooling of Personnel Aboard the *U. S. S. Washington,*" as outlined in report No. 6, indicate that "air cooling is not only a significant factor in affecting the morale of the men, but also may be considered as affecting the efficiency and well-being in an objective manner.

"During a cruise of the *U. S. S. Washington* into a tropical area, observations were made on the effects of air cooling of berthing spaces on the performance and well-being of the crew. Two groups of 20 men each (one group was berthed in air-cooled compartments and the other in mechanically ventilated compartments) were used as subjects for a number of physiological and psychological measurements. . . .

"The mean effective temperature on the navigation bridge during the period Oct. 3 through Oct. 14 (1945) was 76.5° F. During the same period, the mean effective temperature of the air-cooled compartments was 76.2° F. and for the conventionally ventilated compartments, 83.6° F. The highest mean effective temperature reached for any eight-hour period in an air-cooled compartment was 80.5° F. whereas the corresponding maximum in a mechanically ventilated space was 87° F.

FEWER PERSONAL COMPLAINTS

"In addition to a decided preference of the men for the air-cooled compartments, daily questionnaires revealed a lower number of personal complaints, including loss of sleep, by the men berthed in cool compartments," the report states.

"The men in the non-cooled compartments had a significant decrement in body weight as compared to the 'cooled group' during the period of the study as well as a small but significant inferiority in performance in speed of decoding. Morning oral temperatures indicated that the 'cooled men' had lower body temperatures. Exposure to heat was not of sufficient duration to cause appreciable heat rash in either group."

In another study, "Critical Factors in Minimal Air-Cooling of Living Quarters," report No. 7 by Lt. Ralph H. Kellogg, studies were made on a group of 12 youths, previously acclimatized to more severe heat, who were maintained continuously for periods up to four and a half days at each of series of humidities in the dry-bulb range from 76° to 93° (73° to 83° effective temperature).

"Men under these conditions were comfortable, slept well, did not develop heat rash, and were not under excessive phsyiological strain if the effective temperature did not exceed 78° and the dry bulb temperature did not exceed 85° F.," concluded Lt. Kellogg.

REACTIONS OF SUBJECTS

"The subjective sensations of temperature and skin wetness varied with the effective temperature rather than the dry bulb temperature. Interpolation to the mean judgment for 'just right' temperature would place it at about 76° e.t., with 78° e.t. not beyond the comfort range. Practially all skins were reported to feel 'dry' at effective temperatures below 76°, about a quarter felt 'wet' from 76° to 79° e.t., and frequently over half felt 'wet' at effective temperatures over 82°.

"For the regimen employed, the threshold for producing heat rash seemed to lie between 82° and 84° d.b. at high humidity (70 to 80%), and between 87° and 89° d.b. at low humidity (30 to 40%)."

The last report (No. 8) issued, while having to due principally with test procedure, nevertheless may be of general interest to the air conditioning field. In it Lt. Comdr. C. P. Yaglou reports on a "Study of Mean Skin Temperature and Comfort of a Large Group of Naval Personnel Living In a Simulated Battleship Berthing Compartment."

"It appears, in the absence of any conspicuous adaptation influence, that mean skin temperature constitutes the primary factor affecting thermal sensations and, as such, it should offer a reliable index for evaluating effects of temperature, humidity, air motion, radiation, clothing, etc., on the comfort of persons sleeping or engaged in light activities.

"The observations were made in a simulated battleship berthing compartment at the Institute where about 50 enlisted men lived continuously for weeks under controlled thermal conditions averaging about 84° F. d.b., 71° w.b., and 30 f.p.m. air movement. Although these temperatures lie beyond the range of the summer comfort zone for theaters, offices, etc., it has been shown that naval personnel can become adapted to them and get a good night's sleep.

MEAN SKIN TEMPERATURE

"All subjects were fairly comfortable in air temperatures between 82° and 86° upon waking in the morning. The median of the mean skin temperature was about 92.5°, with a minimum of 91.3° and a maximum of 94.5°. Heat discomfort was experienced when the mean skin temperature approached 95°, with a compartment dry bulb of 90° and a wet bulb of 80°. Sensations of cold were associated with mean skin temperatures below 92° when the air temperature was 71°. . . .

"It appears, in the absence of any conspicuous adaptation influence, that mean skin temperature constitutes the primary factory affecting thermal sensations, and as such, it should offer a reliable index for evaluating effects of temperature, humidity, air motion, radiation, clothing, etc., on the comfort of persons sleeping or engaged in light activities.

"It should be pointed out, however, that reliability of skin temperature is lessened by muscular work, when blood supply to active muscles is increased at the expense of the periphery. The effect of physical work requires further study," concludes Lt. Comdr. Yaglou.

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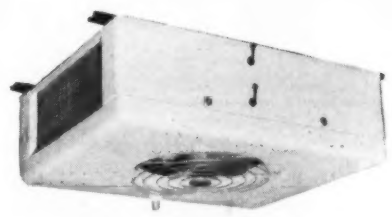
KRACK STRAT-E-FEX
LOW VELOCITY CEILING UNIT



Two Directional Air Flow
For **Small** Coolers

360° Air Discharge
For **Large** Coolers

KRACK Engineered Strat-E-Fex provides uniform air distribution at low velocity with two way air flow for small coolers and 360° air discharge for larger coolers. Air distribution is along ceiling and next to side walls, behind meat rails where heat loss is greatest.

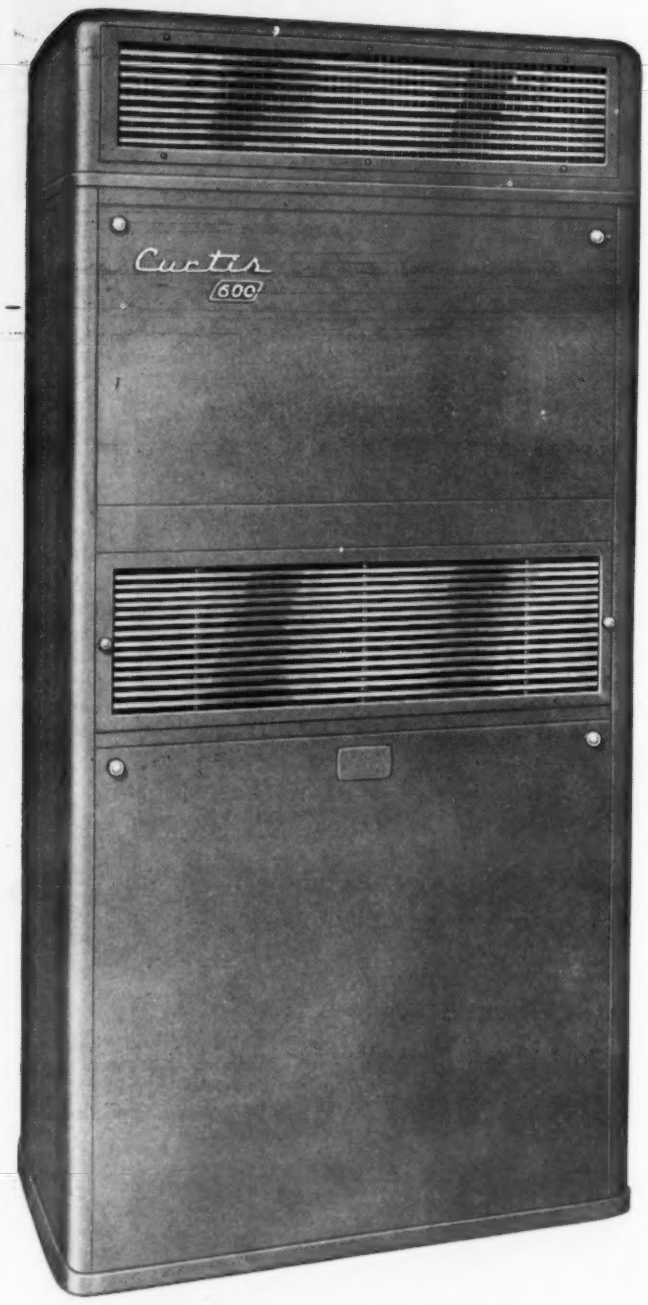
Immaculate baked white finish on a sturdy, streamlined, rust-resistant, galvannealed steel housing. Time-tested KRACK coil element with more surface, more BTU's, more refrigeration for your money.

Built-in, full size heat exchanger. Hinged drain pan for easy access to interior. Low velocity unit, ideal for meat preservation and florist applications.

Send for KRACK Bulletin 8149.

REFRIGERATION APPLIANCES, INC. 923 W. LAKE STREET CHICAGO 7, ILLINOIS
Manufacturers of Refrigeration and Air Conditioning Lowside Equipment
UNIT COOLERS GRAVITY COILS FREEZING UNITS
COMFORT COOLERS AIR CONDITIONING UNITS AND COILS

***Curtis* Dealers Appreciate the Extra Profits in the CURTIS Line**



Beautifully finished units like this—3 and 5 ton.
Central or remote type—7½, 10 and 15 tons.

Here's Why—

Curtis slow-speed compressor equipment with TIMKEN roller bearings and the famous Curtis designed "Centro-Ring" pressure oiling system reduces friction and wear, providing low water and electricity consumption and assuring longer life.

The interior of Curtis air conditioner cabinets are insulated with an approved type of heavy insulating and sound-absorbing material, thus exterior sweating is prevented—quietness is assured

All Adds Up to More Profits Because of—

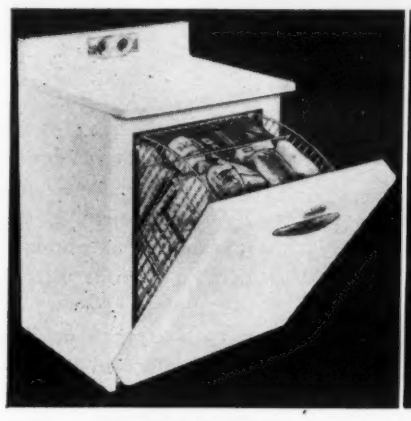
- Long Life, Slow Speed
- Negligible Maintenance Expense
- Quiet, Dependable Operation
- One-Day Installation
- Smart, Modern Exterior Appearance
- Completely Assembled at the Factory
- Full Range of Sizes and Capacities

Before You Sign, Check the Advantages of the Curtis Line

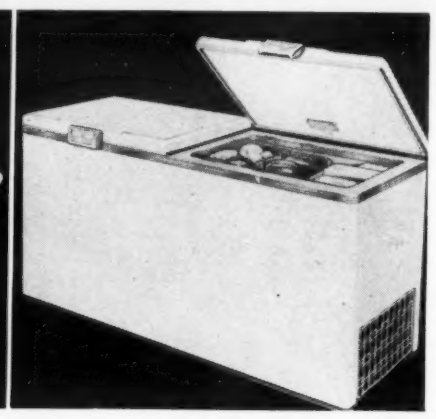
Curtis **REFRIGERATING DIVISION**
of Curtis Manufacturing Company
1912 Kienlen Avenue • Saint Louis 20, Missouri
95 Years of Precision Manufacturing

R 49-13

What's New



Tilt-bin Freezer



21.33-cu.ft. Model

* * *

Schaefer Bows Tilt-Bin Freezer, Bigger Size Line

MINNEAPOLIS — A new line of Pak-a-way home freezers with increased capacity in the same dimensions as the former models and a small, tilt-bin type freezer have been announced by Schaefer, Inc.

Use of a different type insulation has permitted Schaefer to increase the capacities of its three chest type models from 6 to 8 cu. ft., from 12 to 15.07 cu. ft., and from 18 to 21.33 cu. ft., the company revealed.

Other features of the line include new positive action latch with built-in lock on the counterbalanced lids, an automatic interior light on each lid, removable baskets, and location of the cold control and automatic alarm bell switches at the top back where the are easily accessible from the front of the cabinet.

All models carry a 5-year refrigeration unit warranty and a 5-year food protection warranty.

The two larger models also have wire shelves and dividers as standard equipment.

The Pak-a-way freezer bin, something different in home freezer design, is intended for use in kitchens where space is limited. Unlike other freezers, it has no lid or door. Instead, the entire front of the table-height unit tilts out to expose the food. It has 3.5 cu. ft. capacity and is said to be able to hold 100 lbs. of frozen foods.

Another feature of this model is that it has adjustable levelers so that its one-piece porcelain table top can be matched with adjacent sink or cabinet surfaces. An automatic alarm bell is included as standard equipment.

Frigidaire Sinks, Cabinets Feature 'Vitalast' Surfaces

DAYTON—A new and complete line of cabinet sinks and kitchen cabinets, with the exclusive "Vitalast" working surface, has been announced by Frigidaire Div., General Motors Corp.

The line includes five different base cabinets with matching wall cabinets, five special purpose cabinets, and two cabinet sinks. Accessories include a cup rack, condiment rack, extract rack, and flour container.

All base cabinets are equipped with the Vitalast working surface.

"An entirely new plastic material, the surface is grease and acid-resistant," the company said. "Not even a burning cigarette can mar the black marbelized surface. Bonded to steel under heat and tremendous pressure, the surface will not buckle or warp and will not absorb water."

A wide variety of sizes is offered in both the base and wall cabinets. Widths of base cabinets include 15, 18, 21, 24, and 30 in. Height is 36 in. to working surface and 40 in. including back splasher. Wall cabinets 30 in. high are provided to match base cabinets in width.

All cabinets are finished in white Dulux and 15 and 18-in. units are available with either left or right hand door opening. Rigid all-steel electric-welded construction is said to assure maximum strength and durability. Wall and base units are completely enclosed with solid steel backs, bottoms, and panels.

Door and drawer fronts are constructed with double walls, sound deadened, and equipped with silencing rubber bumpers. Drawers have cushion glides of molded nylon for smooth sliding operation.

Special cabinets are provided for corners, over ranges and refrigerators, and for linen and broom storage. Corner wall cabinets are two door "L" type, with full shelf and storage space around corners. Matching base corner filler includes complete work surface with back splashers against both walls.

Corner cabinet is 27 in. along each wall and 30 in. high. Base filler matches corner cabinet in width and all other base cabinets in height.

A special utility cabinet, 21 in. wide and 84 in. high, is divided into two sections with four doors. Top section has shelves for convenient linen storage while lower part opens for broom storage.

For use over ranges, wall cabinets 21 in. wide and 18 in. high, are designed to match standard range sizes. One cabinet easily fits across an apartment size range while two match a standard 42-in. range. Over the refrigerator may be placed another special cabinet 36 in. wide and 18 in. high.

Two cabinet sinks, each a kitchen center in itself, provide easy-to-reach storage space and ample cleaning facilities.

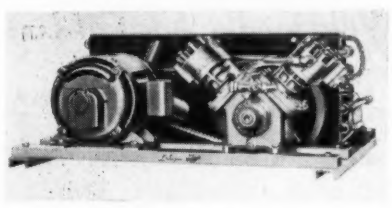
One, 54 in. long, has one large bowl with two drain boards, ribbed and sloped for rapid draining. The other, 48 in. long, has two large bowls, one deeper than the other, for washing dishes and light laundering. An all-porcelain drain board rolls easily over either bowl and may be removed entirely.

As standard equipment, both models are equipped with a built-in spray for rinsing dishes, removable bread board of selected hardwood, two concealed metal utility drawers finished in matching white Dulux; all-metal bread box with sliding cover and sanitary stainless steel crumb cup.

In addition, the 54-in. cabinet has two upper storage drawers, one fitted with steel dividers and thick linoleum for safe utensil storage.

A Cabinet for Every Purpose

Five different base cabinets with matching wall cabinets, five special purpose cabinets, and two cabinet sinks are included in Frigidaire's new line.



* * *

Lehigh Units Designed For Truck Hold-Over Use

LANCASTER, Pa. — Lehigh Mfg. Co. has announced a ¾-hp. and 1-hp. Lehigh Blu-Cold condensing unit specifically designed for truck hold-over plate applications.

These units feature an over-all height of 13 in., heavy angle iron bases, with flexible connections between pump and condenser to compensate for road shock and truck vibration.

The receiver can be furnished mounted on the unit, or if the depth dimension is critical the receiver can be furnished detached from the unit for mounting at any convenient location on the truck, the manufacturer said.

Lehigh uses its heavy duty E-55—4-clyinder refrigeration pump, with a 1⅝-in bore and a 1⅜-in. stroke, on these units.

Complete information on these units may be obtained by writing the company here.

Air Meter Has 2 Ranges For Measuring Velocity

* * *

HAMPTON, Va.—Hasting Instrument Co., Inc., here has announced a precision air meter incorporating two ranges for measurment of air velocities in the range of 0 to 400 and 400 to 6,000 f.p.m.

Reportedly measuring air velocities as low as 5 f.p.m., The meter is said to be applicable to the measurement of air velocities in ducts, flow in air and gas lines, surveys of heating and air conditioning systems, process control, and meteorological studies.

Operation of the instrument is based on a combination of the hot wire and thermopile principles.

"This arrangement increases the accuracy by eliminating the errors due to air temperature variations," the company stated. "The output is suitable for remote indication and operating a standard strip or circular chart electrical recording instrument."

The indicator is housed in a cast aluminum case with provisions for carrying the probe and extension cable. The meter operates from 110 volts a.c. power and is complete with voltage regulated power supply.

Further information can be obtained by writing the Hastings Instrument Co., Inc., Box 1275, here.

An Open Letter...

about the New Hudson Carbonator

HUDSON INDUSTRIES, INC.
CARBONATOR AND DISPENSOR DIVISION
4400 ST. AUBIN • TEmple 2-0715 • DETROIT 7, MICHIGAN

To All Refrigeration Equipment Dealers:

Now we can tell you all about the NEW Hudson constant pressure carbonator, about which much has been rumored. Those whisperings you heard, that it is sensationally simple in design, that operating mechanisms had been reduced, that it practically could think for itself in its automatic operation are TRUE!

A little more than two years ago the blueprints of this New Carbonator were created into physical form. Then began a series of tests not only in our plant but in widely scattered sections of the country. The few modifications that had to be made to the original idea, proved conclusively that this New Carbonator could be expected to perform better under all conditions of operation than any carbonator against which it was comparatively tested.

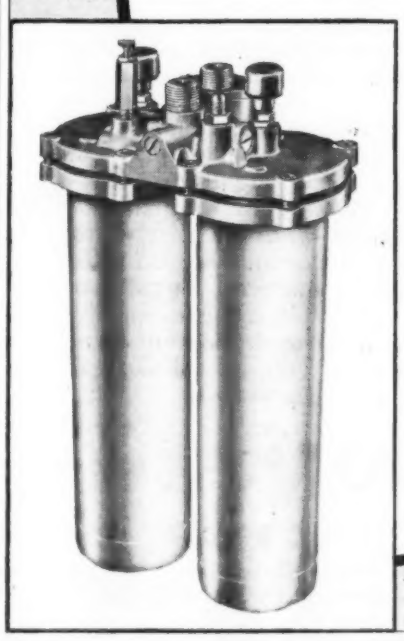
All the operating mechanism, inlet connection CO-2 connection, outlet connection, alternating cylinder valves, CO-2 processing valve, is contained in the head; no unnecessary piping. The New Carbonator requires less space, but is of the same capacity. Dispensing pressure is constant even when drawing up to 30 gallons or more per hour.

The New Hudson Carbonator is priced to sell easily. It will be sold thru dealers of good reputation in their communities, experienced in refrigeration installation and good credit standing. If you can meet these qualifications we invite you to join our organization.

Sincerely,

James L. Hudson

James L. Hudson
HUDSON INDUSTRIES, INC.



Are You Looking for An Easy Way to Handle Stoves, Refrigerators and Freezers?

Solve Your Problem with the New

ROLL-OR-KARI Dual Trucks

Patented Step-On-Lift • Folding Handles
Capacity 1000 Lbs. • Shipping Weight 40 Lbs.
WRITE TODAY

THE ROLL-OR-KARI CO.
MANUFACTURERS
ZUMBROTA • MINNESOTA

Dealer Profits by 'Laughing Off' Trade-Ins

DENVER—Pointing out that "people are laughing at us" in a display advertisement, and indicating that the store has a large market for used, trade-in refrigerators, has paid excellent dividends for A & A Appliance Co. at 3930 Federal Blvd. here.

The advertisement, 4 columns by 16 in., is headed "Everyone in North Denver is laughing at us—for giving such big trade-ins on Frigidaire refrigerators."

Below a box points out "We still have people waiting for used refrigerators, wanted for cabins and for newly-married young couples."

The store gives trade-in allowances ranging from $35 to $55, and has set up a reconditioning program which makes it possible to sell used boxes for $75 to $100, and still show a profit. Time-payments on refrigerator purchases are available, as on new boxes, with the result that many ex-G.I.'s starting out on married life, while attending college, etc., are able to afford electric refrigeration at small weekly budget-payment rates.

Distributor Names Anderson

HARTFORD, Conn.— W. F. Anderson, veteran of more than 30 years in appliance distributing and retailing, has been appointed sales manager of Bauer & Co., Inc., appliance dealership here. The firm distributes appliances throughout the entire New England area.

Presto Iron Lists at $19.95

EAU CLAIRE, Wis. — National Pressure Cooker Co. has announced that it has started deliveries on its new Presto vapor steam iron, intended to retail at $19.95.

April-June Range Sales Record Wins Prize for Hotpoint Distributor

CHICAGO—General Electric Supply Corp., Charlotte, N. C., was the national winner of a Hotpoint distributors contest for exceeding sales quotas of electric ranges and water heaters in April, May, and June.

H. B. Zimmerman, district manager; J. D. White, district sales promotion manager; H. P. Kirk, branch manager, Greensboro, and V. C. Welker, wholesaleman, Greensboro, received wrist watches, cash prizes, and a two-day outing in Wisconsin.

The "Ranger" contest winners were chosen for the largest per cent over quota, with the district manager, district appliance sales manager, district sales promotion manager, branch manager, and wholesaleman eligible for awards. National winners as district wholesaleman winners toured Hotpoint's new range and water heater plants.

Prizes for best sales records in districts went to Havens Electric Co., Albany; R. D. Dunning Co., Bangor; Stratton-Warren Hardware Co., Memphis; Graybar, Des Moines; Graybar, Minneapolis; and Bluefield (W. Va.) Supply Co.

FROZEN LOLLIPOPS: *Gift Promotion Shows Why Refrigerator Requires Freezer Section To Make Them*

DULUTH, Minn.—Lollipops to sell refrigerators!

The connection may seem rather remote, but not the way the Coolerator Co. has developed its "Frozen Lollipop Promotion" into a capsule demonstration program which gives the dealer salesman an unusual opportunity to acquaint prospects with the advantages of the zones of "frozen cold" found in current Coolerator models.

One dealer, Harry Perez of York Furniture Center, York, Pa., says that the "frozen lollipop" program was largely responsible not only for the sale of some 35 Coolerator appliances, but a number of bedroom suites as well.

On the surface it might appear that this is a simple "giveaway" promotion, in which a "frozen lollipop kit" (consisting of 4 plastic freezing cups and a sufficient supply of lollipop flavor concentrate and holders to make 50 frozen lollipops) is offered to "mothers and dads" who will come to the dealer's showroom to pick up the kit. Coolerator has supplied broadsides, postcards, newspaper mats, and spot radio commercials to promote the idea.

But, the Coolerator instructions on the promotion campaign show where a real sales story can be presented along with the lollipops. Dealers are instructed to keep their kits in a demonstration model, and after explaining the instructions to the prospect, turn the conversation into the following channels:

"Yes, there's nothing to it. Only takes from two to four hours in the Coolerator freezer-chest refrigerator. Look, here are some we've frozen right here in the store (showing frozen lollipops in the freezer chest.)

"On, by the way, do you have a freezer-chest in your refrigerator?"

The usual answer in the negative the salesman can continue—

"Well, then it will probably take you a lot longer—anywhere from 6 to 24 hours to freeze these lollipops. And in some old-fashioned refrigerators, they may never freeze. You know, most refrigerators aren't cold enough to keep ice cream frozen firm." (Then salesman exhibits ice cream which has been kept in the freezer chest for a considerable period of time).

This line of selling is promoted by an enclosure in the kit labeled "Warning," which explains that the lollipop mixture needs high freezing power to freeze solid in any kind of time, and not to be surprised if their present equipment didn't do the job. It also explains other ways in which slow freezing is actually inconvenient.

Harry Perez, of York Furniture Co. (York, Pa.) demonstrates how he used the "giveaway" frozen lollipop kit as a means of getting patrons interested in owning a refrigerator with a "frozen cold" section. Perez claims to have moved some 35 Coolerator items with this promotion.

Ryan Is General Sales Mgr. of Philco Distributors In N. Y. C.

NEW YORK CITY — Philco Distributors, Inc., New York division, has announced the appointment of John P. Ryan as general sales manager of the firm. Ryan was formerly factory sales representative for metropolitan New York and northern New Jersey.

G-E Device Indicates Time To Defrost Refrigerator

BRIDGEPORT, Conn. — A "Tel-a-frost" indicator which permits owners of General Electric refrigerators with conventional type refrigerators to determine at a glance the amount of frost accumulated on the evaporator, is now being made available on G-E models.

The red plastic indicator is about ½-in high and 1¼ in. long, and fits into a stainless steel clamp on the side of the freezing compartment.

The amount of frost build-up can be judged by the depth to which the indicator is buried. When the indicator is no longer visible, it's time to defrost.

Seattle Distributing Div. Will Handle Admiral Line

CHICAGO — W. C. Johnson, vice president in charge of sales of Admiral Corp., has announced the establishment of Seattle Distributing Div., 558 First Ave., South, Seattle, as distributor for all Admiral products in the area.

C. W. Strawn, manager of the newly established division was formerly vice president of RCA Victor Distributor Corp. and more recently manager of the Admiral Appliance Div. Other officers include: Keith Davis, sales manager, formerly associated with Connelly Co., Seattle, and R. W. Biggs, sales promotional director.

I. A. Nadritch Heads Buffalo Operation of Bickford Bros.

BUFFALO — Irving A. Nadritch has been named to the new position of vice president in charge of the Buffalo operation of Bickford Bros. Co., distributor of appliances in the Buffalo and Rochester areas.

Nadritch started with the company in 1945 as a salesman.

Give Your Refrigeration Equipment

More Customer Appeal . . .

SPECIFY HERMETIC UNITS WITH BUILT-IN

KLIXON

Dome Mounted

PROTECTORS

Regardless of what you manufacture . . . refrigerators, beverage coolers, frozen food cabinets, showcases . . . you can build a reputation for quality and dependability by using hermetic units with built-in Klixon dome-mounted Protectors.

Installed by the manufacturer of the hermetic compressor, these foolproof protectors keep motors from burning out. They take into account such factors as clogging of condensers, fan failure, low voltages, hot locations, poor ventilation — and prevent the motor from burning out by shutting off the power should the motor become dangerously overheated. When the motor cools, the protector automatically turns on the power permitting the unit to maintain refrigeration.

Specify and insist on hermetic units with Klixon dome-mounted Protectors. They will reduce service calls, cut replacements and repairs, build customer goodwill.

Klixon Motor Starting Relay completes the combination required to start and protect the hermetic motor. Its positive action and long life eliminate starting troubles and make it a fitting companion for the Klixon Protector. Used and recommended by leading refrigeration manufacturers.

KLIXON

SPENCER THERMOSTAT

Division Metals & Controls Corp.

2308 Forest St., Attleboro, Mass.

Add BEN-HUR BLUE to Your Freezer Sales Force

Another First in BEN-HUR FARM AND HOME FREEZERS

COLOR BEAUTY is a trail-blazing sales feature that BEN-HUR Dealers are turning into bigger sales records every day! It's a traffic-stopper that gives you a chance to turn the casual shopper more easily into a proud freezer owner! It's an eye-catcher that wins admiration at first glance — and assures proud satisfaction in home color harmony even while the BEN-HUR Freezer goes on to pay for itself in food-saving and meal variety.

Easier Sales — Low Dealer Inventory

BEN-HUR'S combination of design-beauty and engineered food-freezing perfection keeps Ben-Hur Dealer inventories low. And, because the feature-packed BEN-HUR Freezer is its own best "quota buster," dealer franchises need not be based on rigid volume demands. This means happier dealer relationships, highest results for your selling effort—in freezer sales, profits, and long-lasting customer satisfaction.

Be SURE to check the BEN-HUR Dealership story today! Start now towards a banner BEN-HUR YEAR!

BEN-HUR 12.5 Cubic Foot Model 2129. Other sizes: 9.2 and 18.45 Cubic Feet.

BEN-HUR MFG. CO. Dept. AC 634 East Keefe Avenue, Milwaukee 12, Wis.

BEN-HUR FARM and HOME FREEZERS

HEALTHFUL LIVING THROUGH FROZEN FOODS

Detroit Marine Supply Firm Will 'Sell to Anything That Floats'

Supplying all needs of some 150 freighters and pleasure craft plying the Great Lakes, Detroit Marine Supply Co. needs refrigeration to store meat, produce, and frozen foods. Switching in one of the McCray compressors at left is Joe Tucker, who with brothers Pete and Sam, operates the firm. At the right in the display room where ship owners can examine and buy utensils, etc., are Joe, Pete, and Sam along with sons Tom and Cyril and daughters Helen and Toni.

* * *

Refrigeration Plays Important Role In Supplying Rations For Hundreds of Ships Using 'World's Busiest Waterway'

By C. Dale Mericle

DETROIT — Long known as the "busiest waterway in the world," the Detroit river annually carries hundreds of lake freighters to the many important ports on the Great Lakes.

And keeping these ships supplied with high quality food (the lake boats are famous for the meals set before their crews) is no simple task.

One of the leading suppliers in this area is the Detroit Marine Supply Co., founded 20 years ago by Pete, Joe, and Sam Tucker, which recently moved into new and larger quarters.

Considerable space in the new quarters was devoted to refrigeration. There is a large cooler room for produce, another for meat, and a third for frozen foods.

"We sell to anything that floats," explains Pete Tucker, one of the three brothers who operates the business. "And we service all their needs."

In addition to supplying produce, meat, and frozen foods to some 150 lake freighters and a few pleasure craft, Detroit Marine Supply is prepared to fulfill all the other requirements of these ships.

This includes dry groceries and canned goods, of course in the food line, and it also takes in such things as cutlery, tableware, china, utensils, brooms, chairs, in fact, anything and everything that a captain or steward of a freighter might want.

"If the captain wants his suit pressed in a hurry, we pick it up and have it done. If the steward wants ice, we'll get some and deliver it. This also applies to tools and anything else that might be needed," explains Pete Tucker.

Detroit Marine Supply is a ship chandler in the true sense of the word, and what it doesn't carry in its own stock it gets in a hurry when required.

Round-the-clock service is an essential part of the business, the Tucker brothers all point out.

"Most of our deliveries are made during the day, but occasionally we get calls for deliveries at all hours of the night, too," says Pete. "It all depends when the ships make port or pass Detroit."

Deliveries are usually made to the ships while docked here to load or unload, and these have to be rather carefully scheduled, the Tuckers emphasize.

"The average freighter loads or unloads in four to six hours, and if there happen to be two or three of them in port at the same time, we're mighty busy."

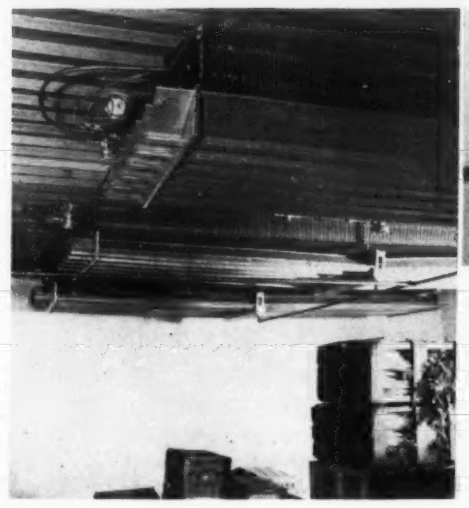
Two trucks are operated by the firm to haul the orders from its warehouse to the ships at dock.

But sometimes an order comes in from a local steamship office or direct from the freighter by ship-to-shore telephone that requires delivery "on the fly" because the boat isn't going to dock at Detroit.

Then the Tuckers load up their 34-ft. launch, take it out in the river, pull up alongside the moving freighter, and load the supplies into nets lowered over the side of the ship.

This operation requires careful piloting, even in the best of weather. Although all three Tucker brothers can, and occasionally do, take out the launch on these emergency runs, the boat is usually piloted by Bud Labadie while Louis Kovach handles the lines.

The launch is also useful for other than these "on the fly" deliveries. The freighters sometimes tie up at docks which are inaccessible to the firm's trucks, so the launch makes the delivery.



Silhouetted against a riverfront background is the 34-ft. launch that sometimes is used by Detroit Marine Supply in making deliveries to ships "on the fly". Gravity coils employed in the produce storage room are shown at left.

Located on Detroit's main downriver street, Jefferson Ave., Detroit Marine Supply also has a "slip" at its backdoor. The firm has been in its new quarters such a short time that it hasn't yet completed the dock which will be at its rear door. For the present, which launch deliveries are required, the order is first loaded on a truck and then transferred to the launch at a nearby dock.

The launch itself has no provision for refrigeration, but the Tuckers feel that the foods, even the frozen variety, do not suffer by their relatively short exposure to outdoor temperatures.

Incidentally, the Tuckers are quite interested in frozen foods, and the installation made by McCray Refrigerator Co., Detroit McCray distributorship headed by I. Wolf, includes a 16 by 24-ft. room for freezing and holding frozen foods. A 5-ton McCray water-cooled condensing unit supplies a McQuay Zeropak blast cooler in the freezer room.

"Some of the stewards on the freighters are partial to frozen foods, especially berries and poultry," Pete Tucker says. "And we intend to try freezing foods ourselves."

In this installation the freezer room adjoins and opens off the 16 by 24-ft. meat room powered by a 3-ton McCray compressor connected to gravity coils. Another 3-ton machine supplies a vegetable room which is also fitted with gravity coils.

Here's the ANSWER to PRICE COMPETITION

JEWETT BEVADOR

THIS EXCLUSIVE circular Beverage Cooler is your answer to greater profits.

22 case capacity...seven adjustable revolving shelves . . . exclusive cylindrical design . . . fast cooling...only 37" in diameter.

ONE OWNER SAYS..."Sold $308.00 in June before Bevador was put in. Sold 683.00 in July after putting in Bevador."

ANOTHER OWNER SAYS..."I have had it for 5 years and am more than pleased. It is handy and beverages stay at right temperature. I wouldn't be in business without it."

Exclusive Territories Available

WRITE FOR DETAILS

JEWETT REFRIGERATOR CO., INC.
Established in 1849 BUFFALO 13, N. Y.

KOLD-HOLD builds better plates for every application

There are two big reasons why you can count on the performance of Kold-Hold Hold-Over and evaporator plates fo every refrigerating installation.

FIRST: They are designed and engineered primarily to refrigerate efficiently and economically.

SECOND: They are built with care and to quality standards which assures that each and every Kold-Hold plate does its designed job to the fullest degree of satisfaction. Before any plate leaves the factory it is pressure tested under water and completely dehydrated.

This combination of engineered design and controlled construction is your best guarantee of peak performance.

Would you like to know more about how Kold-Hold plates can be used for quick freezing, chilling and holding, short period cooling, or for "Hold-Over" truck refrigeration? *Complete descriptive literature is yours free — write today!*

KOLD-HOLD

Jobbers in Principal Cities

PROCESSING TRANSPORTATION STORAGE
protects every step of the way

KOLD-HOLD MANUFACTURING COMPANY - 500 E. HAZEL ST., LANSING 4, MICHIGAN

The **KEY** *to* **AIR CONDITIONING**

One of a series from

by James J. LaSalvia

Readers who have any questions regarding the application of air conditioning are invited to write to Mr. LaSalvia, the author of this series, who will be pleased to furnish a complete and detailed answer free of charge. This is another of the services provided by the NEWS.

Selection of Steam Coils (Cont.)

EXAMPLE NO. 5
(TOTAL HEATING)

Let us assume that the total air is 12,000 c.f.m. The outside air is 5,000 c.f.m. The outside design temperature is 0° F. and the air is heated to 130° F. and supplied to the room.

Steam is available at 5 p.s.i. The space is to be maintained at 74° F. This is a total heating job.

a. Select the steam coils.

b. What is the pounds of condensate per hour?

c. Compute the air friction.

a. Total air	12,000 c.f.m.	100%
Outside air	5,000 c.f.m.	42%
Recirculated air	7,000 c.f.m.	58%

42% x 0° = 0° F.
58% x 74° = 43° F.

43° F. = Temperature of mixture entering the steam coils.

The air is to be heated from 43° F. to 130° F. Assuming a velocity through the coils of 500 f.p.m.:

$$\frac{12{,}000 \text{ c.f.m.}}{500 \text{ f.p.m.}} = 24 \text{ sq. ft. of face area is required.}$$

Referring to Table 5, the best selection lies in using two units with 29-in. wide casing, having a nominal tube length of 6 ft., and each unit having 12.45 sq. ft. of face area, making a total of 24.9 sq. ft. of face area.

Now referring to Table 8 with 43° F. entering air at a velocity of 500 f.p.m. and interpolating we get:

Two rows of tubes deep will raise the air to 132° F. which is okay, and will condense 49 lbs. of steam per hour per square feet of face area.

Therefore, the coils to use are two No. 82 Flexible Aerofin coils, having two rows deep in the direction of the airflow, having a total face area of 24.9 sq. ft. and a nominal tube length of 6 ft. with 29-in. wide casings.

b. The condensate pounds per hour are found in this case:

49 lbs. x 24.9 sq. ft. = 1,200 lbs. of condensate per hour.

c. The air friction for a No. 82 coil with a velocity of 500 f.p.m. for standard air at 70° F. (refer to Table 2) = .145 in. of water.

Average temperature = $\frac{43° + 132°}{2} = 87.5°$ F.

Referring to Table 3 and interpolating, 1.033 is the factor.

Therefore, the air friction for the above coil is .145 x 1.033 = 15 in. of water.

EXAMPLE NO. 6
(TOTAL HEATING)

Let us assume that the total air is 12,000 c.f.m. and that it is all outside air. The outside design temperature is 0° F. The air is to be heated to a temperature of 125° F. at which temperature it is supplied to the room.

a. Select the steam coils.

b. Calculate the pounds of condensate per hour.

c. Compute the air friction.

a. It is necessary in this case to use tempering coils and do final heating with re-heating coils.

It is necessary to heat the air in the tempering coils from 0° F. to about 40° F. or above freezing temperature. Velocities to use in such cases should be from 300 to 500 f.p.m. Let us assume in this case 400 f.p.m.

$$\frac{12{,}000 \text{ c.f.m.}}{400 \text{ f.p.m.}} = 30 \text{ sq. ft. of face area is required.}$$

From Table 5 we can use two units with 37 7/16-in. wide casings each having 15.42 sq. ft. or a total of 30.84 sq. ft. of face area, and having a nominal tube length of 5½ ft.

By referring to Table 6 with entering air at 0° F. and using No. 31 coils with 400-ft. velocity, we find that the air can be raised to 39.1° F. and the amount of condensate per hour per square foot of face area is 17.5 lbs.

The tempering coils to use in this case would be two No. 31 Flexitube Aerofin coils, with one-row of tubes in the direction of the airflow, having nominal length of tubes of 5½ ft., 29-in. wide casings, and with a total of 30.84 sq. ft. of face area.

If at all possible, these coils should be installed in a vertical position.

When placed in the vertical position the two coils would be side by side and one row of tube in the direction of the airflow.

It is now necessary to re-heat the air from 39.1° F. to 125° F.

For re-heat coils the velocity should be between 500 and 800 f.p.m. In this case let us assume 500-ft. velocity.

$$\frac{12{,}000 \text{ c.f.m.}}{500 \text{ f.p.m.}} = 24 \text{ sq. ft. of face area required.}$$

We can use the same size coils as used in Example No. 3, namely two No. 82 coils with 29-in. casing and nominal length of tubes 6 ft., having a total of 24.9 sq. ft. of face area.

Referring to Table 8 we find that with 39.1° F. entering air with 500-ft. velocity, the final temperature of 127.8° F. is given. As we require 125° F., these coils are all right. The amount of condensate per hour per square foot of face area is 50.2 lbs.

Therefore, the re-heat coils to use would be two 29-in. wide units with nominal tube lengths of 6 ft., and having 24.9 sq. ft. of face area.

b. Tempering coils, pounds of condensate per square foot of face area = 17.5 lbs.

17.5 x 30.84 = 540 lbs.

Re-heat coils, pounds of condensate per square foot of face area = 50.2 lbs.

50.2 x 24.9 = 1,250 lbs.

Total: 540 lbs. + 1,250 lbs. = 1,790 lbs. of condensate per hour.

c. Tempering coils' air friction, corrected:

.037 x .906 = .034 in. of water.

Re-heat coils' air friction, corrected:

.145 x 1.025 = .149 in. of water.

Total air friction for the two coils is:

.034 in. + .149 in. = .183 in. of water.

Table 9—Constants for Obtaining Temperature Rise at Various Steam Pressures and Entering Air Temperatures

Note. To obtain Final Temperature for Steam Pressures or Entering Air Temperatures other than those shown in Tables, multiply the ratings for *Zero* Entering Air Temperatures and 5 *Pounds* Steam Pressure as shown in the various Tables, by Conversion Factors given in this Table, and add this Temperature Rise to Temperature of Entering Air.

Enter. Air Temp. ° F.	Steam Pressure in Pounds per Square Inch (Gauge)															
	0	2	5	10	15	20	30	40	50	60	80	100	125	150	175	200
−20	1.021	1.050	1.088	1.142	1.187	1.227	1.295	1.350	1.399	1.441	1.514	1.575	1.641	1.699	1.750	1.795
−10	.977	1.006	1.044	1.098	1.143	1.183	1.250	1.306	1.355	1.397	1.470	1.531	1.597	1.655	1.705	1.751
0	.933	.962	1.000	1.054	1.100	1.139	1.206	1.262	1.310	1.353	1.426	1.487	1.554	1.611	1.662	1.707
10	.889	.918	.956	1.010	1.055	1.095	1.163	1.219	1.266	1.309	1.382	1.443	1.510	1.566	1.618	1.664
20	.845	.874	.912	.966	1.012	1.051	1.119	1.174	1.223	1.265	1.338	1.399	1.465	1.523	1.574	1.620
30	.801	.830	.868	.922	.968	1.007	1.075	1.130	1.179	1.221	1.294	1.355	1.421	1.479	1.530	1.575
40	.757	.786	.824	.877	.923	.963	1.030	1.086	1.134	1.177	1.250	1.311	1.378	1.435	1.486	1.531
45	.735	.764	.802	.856	.901	.941	1.009	1.064	1.113	1.155	1.228	1.289	1.355	1.413	1.464	1.510
50	.713	.742	.780	.834	.879	.919	.986	1.042	1.091	1.133	1.201	1.267	1.334	1.390	1.442	1.487
55	.691	.720	.758	.812	.857	.897	.965	1.020	1.069	1.111	1.184	1.245	1.311	1.369	1.420	1.465
60	.669	.698	.736	.790	.835	.875	.943	.998	1.046	1.089	1.161	1.224	1.290	1.346	1.398	1.444
65	.647	.676	.714	.768	.813	.853	.921	.976	1.025	1.067	1.141	1.201	1.267	1.325	1.376	1.421
70	.625	.654	.692	.746	.791	.831	.899	.954	1.003	1.045	1.119	1.179	1.245	1.302	1.354	1.400
75	.603	.632	.670	.724	.769	.809	.877	.932	.981	1.023	1.097	1.157	1.224	1.280	1.332	1.377
80	.581	.610	.648	.702	.747	.787	.855	.910	.959	1.001	1.075	1.135	1.201	1.259	1.310	1.355
85	.559	.588	.626	.679	.725	.765	.833	.888	.937	.979	1.053	1.113	1.180	1.236	1.288	1.334
90	.537	.566	.604	.657	.703	.743	.811	.866	.914	.957	1.031	1.091	1.157	1.215	1.266	1.311
100	.493	.522	.560	.613	.659	.691	.767	.822	.871	.913	.986	1.047	1.114	1.170	1.222	1.268
110	.449	.478	.516	.569	.615	.655	.723	.778	.827	.869	.942	1.003	1.070	1.126	1.177	1.224
120	.405	.434	.472	.525	.571	.611	.679	.734	.783	.825	.898	.959	1.025	1.082	1.133	1.180
140	.317	.346	.384	.438	.483	.523	.591	.646	.695	.737	.810	.871	.937	.995	1.045	1.091
150	.273	.303	.340	.394	.439	.479	.547	.602	.651	.693	.765	.827	.893	.951	1.001	1.048
180	.141	.169	.208	.262	.307	.347	.414	.470	.519	.561	.633	.695	.762	.819	.869	.915
200	.053	.081	.120	.173	.219	.259	.326	.382	.430	.473	.545	.607	.673	.731	.782	.827

Aerofin Corp.

FINAL TEMPERATURES FOR OTHER STEAM PRESSURES

There are times when steam has to be used, that has a lower or higher pressure than the 5-lb. pressure as used in the tables. To get the final air temperatures for other steam pressures use Table 9.

EXAMPLE NO. 7

Suppose in Example No. 5 that a steam pressure of 10 p.s.i. were used, what would be the final temperature of the air leaving the coil?

Referring to Table 8, 0° entering, two rows, 500-ft. velocity = 107.1° F.

Referring to Table 9, 43° entering and 10-lb. steam, interpolate = .864.

107.1° F. x .864 = 92.5° F.
then, 92.5° + 43° = 135.5° F., the final temperature with 10-lb. steam.

EXAMPLE NO. 8

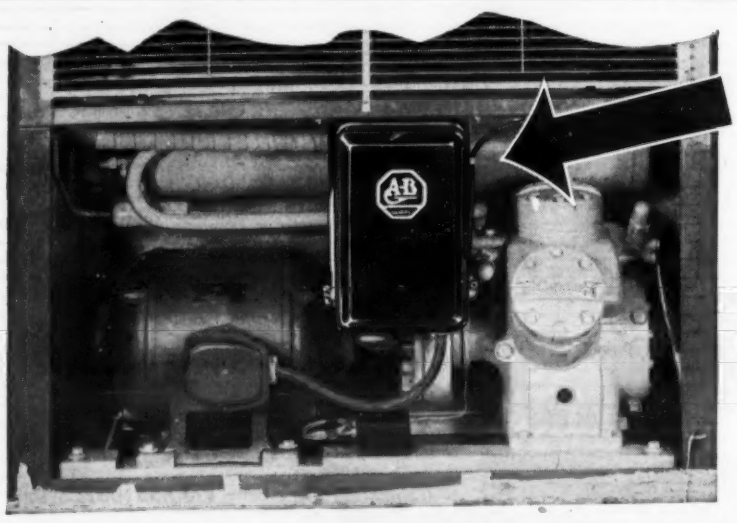
Suppose that in Example No. 5 a steam pressure of 2 p.s.i. were used, what would the final temperature of the air leaving the coil be?

Referring to Table 8, 0° entering, two rows, 500-ft. velocity = 107.1° F.

Referring to Table 9, 43° entering and 2-lb. steam, interpolate = .773.

107.1° F. x .773 = 82.8° F.
then, 82.8° + 43° = 125.8° F. is the final temperature with 2-lb. steam.

(To Be Continued)

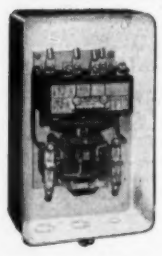


Close-up of the Carrier compressor unit equipped with Allen-Bradley Bulletin 709 Solenoid Starter.

Full view: Carrier new 7½ hp self-contained air-conditioner.

Carrier AIR-CONDITIONERS
equipped with
Trouble-Free Motor Controls

A-B Quality



Bulletin 709 Solenoid Motor Starter for automatic refrigeration control. White interior reflects light in dark corners. Ample wiring space.

WHY ARE ALLEN-BRADLEY STARTERS SO POPULAR for air-conditioning service? . . . Because they are trouble-free. Only one moving part. No pivots, pins, or bearings to corrode or stick . . . no jumpers to break. You install them . . . and forget them!

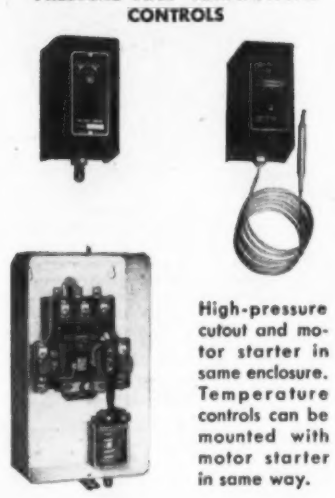
NO CONTACT MAINTENANCE. Allen-Bradley patented silver alloy contacts never need cleaning, filing, or dressing.

DEPENDABLE OVERLOAD RELAYS. Allen-Bradley thermal relays are accurate and dependable even after long service.

The A-B trademark stands for millions of trouble-free operations. Allen-Bradley Co., 1313 S. First St., Milwaukee 4, Wisconsin.

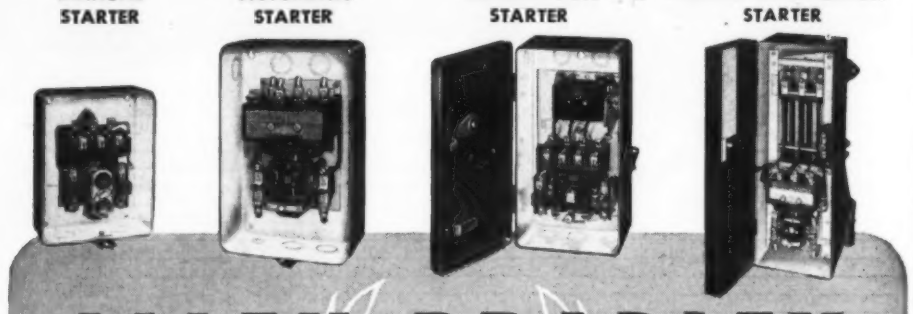
ALLEN-BRADLEY AIR-CONDITIONING AND REFRIGERATION CONTROLS

PRESSURE AND TEMPERATURE CONTROLS



High-pressure cutout and motor starter in same enclosure. Temperature controls can be mounted with motor starter in same way.

MANUAL STARTER | AUTOMATIC STARTER | COMBINATION STARTER | HEAVY COMPRESSION STARTER



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Efficient operation makes a product easier to sell on one hand; builds solid customer satisfaction on the other. Precision engineering—only the best materials—skilled craftsmanship—and almost 25 years experience in commercial and industrial refrigeration—all add up to higher efficiency for every Larkin product. And this means lower operating costs — important to buyer and seller alike.

Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

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Anderson & Wagner Names Hilke General Sales Mgr.

LOS ANGELES—Appointment of Don D. Hilke as general sales manager has been announced by Anderson & Wagner, Inc., manufacturer of "Everfrost" soda fountain and luncheonette equipment and the "Everfrost" soda bar.

Don Hilke

According to Mark Anderson, president of Anderson & Wagner, Hilke will supervise all sales and merchandising, including a new plan to give Everfrost customers concentrated sales and promotion assistance.

Hilke has had 30 years' experience in the soda fountain, drug, restaurant, and hotel equipment fields. For more than 20 years, he occupied a key position in the sales of fountain, luncheonette, and commercial refrigeration equipment manufactured by Weber Showcase & Fixture Co. Prior to his association with Weber, he sold Liquid Carbonic equipment in the western states.

Mfr. Starts Suit To Test Nebraska Fair Trade Act

OMAHA, Neb.—Nebraska home appliance dealers are watching with interest a suit just filed in district court here by Mohawk Carpet Mills, a New York corporation, to test the Nebraska Fair Trade Act.

The New York corporation asks that the Nebraska Furniture Mart of Omaha be "restained from engaging in further unfair competition."

The suit charges specifically that the furniture store and its proprietor, Rose Blumkin, have sold rugs and carpeting below fair trade agreements made in a contract with Orchard-Wilhelm, another Omaha furniture company, selling Mohawk merchandise.

Furniture Mart repeatedly has ignored warnings to recognize the fair trade agreement in advertising and selling Mohawk products, it is alleged.

Hudson Carbonator With 'Mechnical Brain' Is Completely Automatic

DETROIT—A new model constant pressure carbonator that is said to be completely automatic in operation has been introduced by Hudson Industries, Inc., 4400 St. Aubin St. here.

"While clear sparkling water is being drawn from one cylinder, tap water and CO_2 gas are being processed in the second cylinder," the manufacturer explained. "A simple, foolproof valve automatically alternates operation between cylinders."

The new Hudson carbonator "with the mechanical brain" has all automatic valves and activating parts located in the mechanized head where they are accessible for cleaning or adjusting.

The alternating valve plunger, included in the head, can be taken out and cleaned without removing the carbonator from the cabinet, the manufacturer asserted. Removal of only eight bolts disassembles the entire unit and exposes all parts for inspection and adjustment.

The check valves are said to be of a new type that never wear out. The vent valves are adjustable and replaceable and the inlet gas valve is also replaceable.

The only connections necessary with the Hudson carbonator, according to the manufacturer, are the water inlet, CO_2 gas inlet, and carbonated water outlet connections.

The eight countersunk head bolts and "O" seal gaskets, prevent pressure leakage, he noted.

The two stainless steel cylinders measure 3½ in. in diameter and stand 12 in. high. The entire unit will occupy a space of 16½ by 3¾ by 8½ in. It weighs 17 lbs.

The manufacturer indicated that the unit would produce 30 gals. of carbonated water per hour at a constant pressure up to 125 lbs. It is guaranteed by the manufacturer.

Independent Dollar Sales Fall

WASHINGTON, D. C.—Dollar sales of independent retailers in June showed a decline of 2% from those in May, the Census Bureau reports.

Sally's Cooking with Kilowatts

Sally Odin, new home economist for the Odin Stove Mfg. Co., demonstrates the company's first electric range. The model at left is one of the "Beautyrange" line which was shown for the first time at the Chicago Summer Market. The Odin firm has been manufacturing gas ranges for 50 years.

* * *

Odin Stove Co. Enters Electric Range Field

ERIE, Pa.—Odin Stove Mfg. Co. here, which has been manufacturing gas ranges for 50 years, has announced its entry into the electric range field.

The new "Beautyrange" line was shown for the first time at the Chicago Summer Market.

First electric range to be announced is a 30-in. model.

Deluxe features of this range include an electric automatic-timed cooking clock; four "Pyroflex" top elements, each with the seven-heat switch; wide use of bright chrome finish; and "large" storage drawer and "extra large" storage compartment. Others are Johns-Manville insulation in the oven; two electrical outlets, one automatically timed for small electrical appliances; and a pull-out, smokeless broiler in two pieces.

A 20-in. electric "Beautyrangette" has the same deluxe features as the 30-in. model. It is built in three-burner style.

Odin said "medium prices" will prevail in the new line.

It was also announced that Sally Odin is the new home economist for Odin. With the company for a long time, she will handle customer correspondence, cooking problems, and assist in the development of new promotional campaigns and in the design of new models.

G-E Corrects List Price On Its Redesigned Ironer

BRIDGEPORT, Conn. — General Electric Co.'s Appliance and Merchandise Department has reported that the recommended national retail price of G-E's redesigned flatplate ironer was incorrectly announced in a recent press release as $299.75.

Correct recommended price of the flatplate is $229.75, it was pointed out.

(The article containing the misprinted price was published in the July 25 issue of AIR CONDITIONING & REFRIGERATION NEWS.)

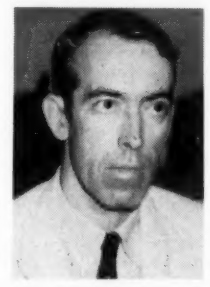
Hussmann Co. Nets $820,370

ST. LOUIS—A net profit of $820,370, equal to $2.03 a common share, has been reported by Hussmann Refrigerator Co. and wholly-owned subsidiaries for the six months ended June. 30.

This compares with a net profit of $811,313, or $2.03 a share, for the like 1948 period.

F. H. Pillsbury To Head Operations at Century

ST. LOUIS—Appointment of Fred H. Pillsbury as vice president in charge of operations of Century Electric Co. here has been announced by the company's board of directors.



F. H. Pillsbury

At the time of his promotion, he was serving the company in the capacity of executive engineer.

Pillsbury joined the organization in 1927 after graduating from Washington university, St. Louis.

The eldest of three sons of Edwin S. Pillsbury, one of the founders of Century, he is active in the Engineers Club of St. Louis and the Harbor Point Yacht club.

'Price-Fixing' Firm Fined $17,500 In Texas Court

AUSTIN, Tex. — Found guilty of violating this state's anti-trust laws by fixing and maintaining retail prices of its products, National Pressure Cooker Co. was fined $17,500 in State District Court here.

The Eau Claire, Wis., firm was also restrained from continuing to fix retail prices of its pressure cookers and Martin outboard motors. The motors are manufactured by a division of National Pressure Cooker.

Since Texas does not have a fair trade law, controlled minimum retail prices are illegal.

Dept. Store Appliance Sales Off Sharply from Last Year

WASHINGTON, D. C. — Department stores in only two Federal Reserve districts reported major appliance sales for May at higher levels than in the same month last year. Stores in all other districts found sales sharply off from last year, the Federal Reserve Board reported recently.

The increases were found in the Atlanta and Dallas districts, up 10 and 4% respectively.

Declines by district were reported as follows. New England except Boston 32.9%; Boston 17.6%; New York 24%; Philadelphia 26%; Cleveland 26%; Richmond 22%; Chicago 29.1%; St. Louis 31%; Kansas City 38%; and San Francisco 47%.

A. F. Westerfield Elected Vice President of U. S. Radiator

DETROIT—Election of A. F. Westerfield as vice president of United States Radiator Corp. has been announced by Wesley J. Peoples, chairman of the board and president. During the past 23 years, Westerfield was manager of the corporation's southern branch. He was one of the organizers of the Southern Plumbing and Heating Wholesalers Association, and was responsible for marketing heating products for some of the largest construction projects in the nation.

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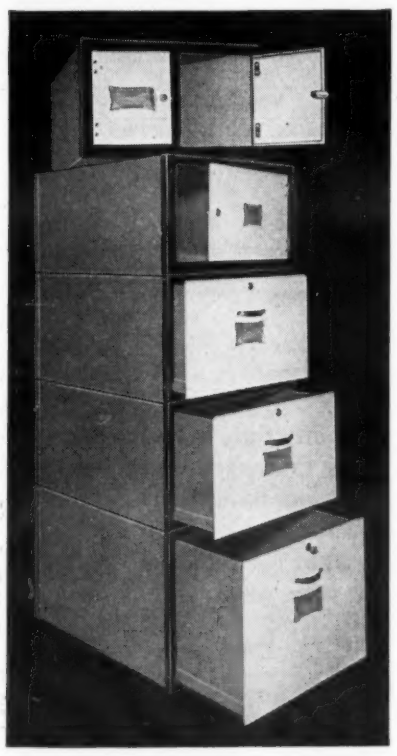

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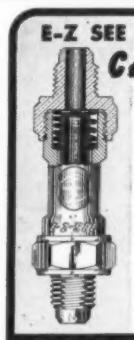

Because . . .

Remco's unique foolproof construction provides that springs in each end form a positive seal on the Neoprene gaskets by automatically compensating for 'cold flowing' and difference in expansion and contraction between the glass and the body. E-Z-See is easy to see thru—and guaranteed perfectly safe for working pressures up to 500 PSI.

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Find leaks involving all chlorinated hydrocarbon refrigerants quickly and accurately with Turner's highly-sensitive Model H-1 Halide Detector. This blowtorch-type burner employs a simple chemical principle . . . flame becomes *green* whenever gas is present in the area surrounding a defective cooling unit. Designed and constructed throughout for long, dependable service. Has a flexible exploring tube for easy probing in "hard-to-get-at" places; holds one pint of alcohol fuel; measures 8" from handle to tip of burner x 7½" high x 4½" wide; can also be used as a blowtorch.

AVAILABLE FOR IMMEDIATE DELIVERY

Made by the manufacturers of nationally-known Turner Blow Torches and Fire Pots

THE TURNER BRASS WORKS

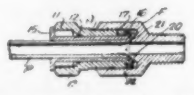
SYCAMORE ILLINOIS

Since 1871

PATENTS

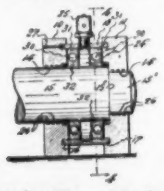
Week of April 5 (Continued)

2,466,521. TUBE NUT. Albert J. Weatherhead, Jr., Shaker Heights, Ohio, assignor to The Weatherhead Co., Cleveland, Ohio.



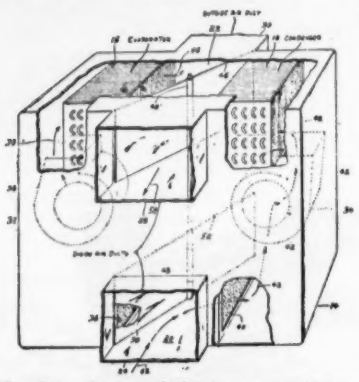
A tube nut comprising in combination a shell of substantially uniform wall thickness having an hexagonal head at one end with the remainder thereof of reduced diameter, said remainder being substantially cylindrical and exteriorly threaded, an inner sleeve within the shell terminating at one end in a radical flange abutting the said hexagonal shell head, the opposite end of said sleeve being flared against the other end of the shell for retaining said sleeve within said shell, the inner surface of said flared end being formed to engage the flared end of a fluid conducting tube extending through the sleeve.

2,466,543. FABRICATED BEARING OR PILLOW BLOCK FOR SHAFTS. George G. Hamilton, Maplewood, N. J.



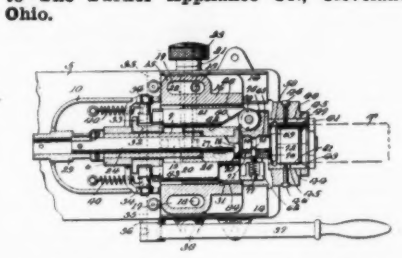
1. A fabricated pillow block formed by three main parts comprising longitudinally spaced and opposed transverse upstanding end members having aligned passages for the extension of a shaft therethrough, and a tubular spacing element of selected length extending between said end members; said tubular element being adapted to support anti-friction shaft bearing means intermediate said end members; said end members having annular seating grooves in their inner faces concentric to the axes of said shaft passages thereof, the ends of said tubular spacing element being mortised in said grooves, means to secure the assembled end members and tubular spacing element together so as to form thereby a unitary pillow block structure, and said end members having laterally projecting perforate foot pieces engageable by means to fix the pillow block structure in place of use.

2,466,383 AIR CONDITIONING APPARATUS FOR COOLING OR HEATING. Clifford S. Cody, Springfield, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.



1. An air conditioning apparatus including a casing, an air cooling element in said casing, an air heating element in said casing, said casing having an air intake chamber arranged for receiving room air and outside atmosphere air to be conditioned by said cooling and heating elements and an outlet chamber arranged for receiving air conditioned by said elements and for discharging air to the room and to the outside atmosphere, means for propelling air from said intake chamber into contact with said cooling element and to said outlet chamber, means for propelling air into contact with said heating element and to said outlet chamber, a first damper means controlling the discharge of air from said outlet chamber, said damper means being movable to one position in which it directs the air cooled by said cooling element to the room and the air heated by said heating element to the outside atmosphere, and to another position in which it directs the air cooled by said cooling element to the outside atmosphere and the air heated by said heating element to the room, and a second damper means for controlling admission of room air and outside atmosphere air into said intake chamber, said second damper means being movable to one extreme position in which room air exclusively is directed to said cooling element and outside air exclusively is directed to said heating element and to another extreme position in which outside air exclusively is directed to said cooling element and room air exclusively is directed to said heating element, and also being movable, while the first damper means is in one of its two mentioned positions, to a plurality of intermediate positions for directing variable mixtures of room air and outside atmosphere air to said cooling element and to said heating element.

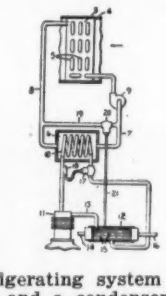
2,466,422. TUBE BEADING AND FLARING MACHINE. Emmett C. Hartley and Henry E. Hull, Cleveland, Ohio, assignors to The Parker Appliance Co., Cleveland, Ohio.



2. In a machine of the character described, a rotor, a tool supporting arm shiftably mounted on said rotor and having a tool shank receiving socket therein, a tool having a shank mountable in said arm socket and having a recess therein, a retainer detent mounted on the rotor and engageable in the tool shank recess, and a single spring means constantly tending to hold the arm in a predetermined position on said rotor and yieldably holding said detent in said shank recess.

10. In a tube beading machine, a rotor, a swingably mounted tube beading tool supporting arm rotatable with the rotor, tube holding means having a beading clearance therein, means supporting said tube holding means adjacent said arm and in position so that a tube inserted in the holding means is directly engageable with said swingably mounted arm as a stop definitely placing the tool a predetermined distance in the tube for beading said tube a predetermined distance from the arm engaging end thereof, means normally holding the arm with the tool approximately centered on the tube and rotor axes, means for rotating the rotor, and means for swinging the arm to force the tool outwardly against the tube opposite said beading clearance while the rotor is turning for beading said tube.

2,466,460. REFRIGERATING SYSTEM. George K. Marshall, Lombard, Ill., assignor to General Electric Co.

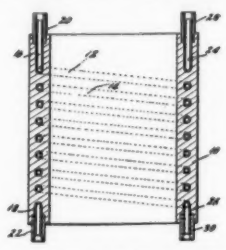


1. A refrigerating system comprising a compressor and a condenser and an evaporator connected in a closed refrigerant circuit, means for circulating a cooling fluid over said condenser, a first heat transfer unit, means including a second heat transfer unit arranged in heat exchange relationship with said evaporator for circulating a heat transfer liquid over said evaporator and through said first unit in series, means providing a by-pass for circulating a portion of said liquid around one of said units, and means responsive to an operating condition of said condenser for controlling the flow of liquid through said by-pass to maintain substantially constant the load on said compressor.

Week of April 12

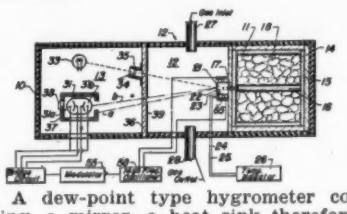
2,466,676. LIQUID COOLING UNIT. Cecil Boling, Brewster, and Alex J. Tigges, New York, N. Y.; said Tigges assignor to said Boling. Application April 19, 1946, Serial No. 663,450. 4 Claims. (Cl. 62—141.)

1. In a heat exchange unit of the type which is used for cooling liquid with a refrigerant, a cooling tube which is adapted to have the refrigerant flow therethrough so as to produce a cooling effect in a cooling zone, a liquid tube which is adapted to have a liquid to be cooled flow therethrough and which extends substantially parallel to said cooling tube and is spaced therefrom a substantial distance throughout said cooling zone, an aluminum block structure enclosing said tubes at all points throughout said cooling zone with the tubes having end portions adjacent the extremities of said cooling zone at the surfaces of the block structure, said block structure forming a solid wall around said liquid tube throughout said cooling zone of sufficient thickness to prevent bursting of the liquid tube in the event that liquid therein freezes, and a plurality of fittings respectively surrounding and connected to said end portions of the liquid tube and reenforcing the same, each fitting having an imbedded portion which is



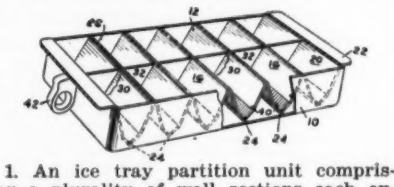
imbedded in the block construction and having an external portion integral with and projecting outwardly from the imbedded portion beyond said cooling zone.

2,466,696. DEW POINT HYGROMETER. Frank A. Friswold, Cleveland, and Ralph D. Lewis, Parma, Ohio. Application Sept. 25, 1945, Serial No. 618,604. 5 Claims. (Cl. 236—44.) (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)



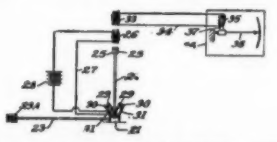
1. A dew-point type hygrometer comprising, a mirror, a heat sink therefor, a heat conducting element extending from said mirror into said sink, a light source, a photo-cell, said light source being arranged to direct light towards said photocell by reflection from said mirror and in such manner that the amount of light falling on said photo-cell when said mirror is wet differs from that falling on said photo-cell when said mirror is dry, a coil extending around said mirror only, means to energize said coil with high frequency current to thereby heat the surface of said mirror by induction, and circuit means including said photocell for controlling operation of said mirror heating means.

2,466,747. ICE TRAY. Maximilian Siebigteroth, Detroit, Mich., assignor to Charles B. Kemp, Grosse Pointe, Mich. Application Aug. 21, 1946, Serial No. 691,964. 8 Claims. (Cl. 62—108.5.)



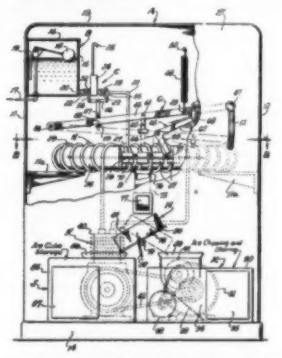
1. An ice tray partition unit comprising a plurality of wall sections each extending transversely of the tray, each wall section being pivotally connected to an adjacent wall section along its bottom edge and rigidly joined to another adjacent section along its top edge, said wall sections being slotted from their bottom edge to a point near their top edges and a longitudinal partition lying in said slots, said longitudinal partition being perforated and pivot members extending through the perforations and connecting adjacent transverse wall sections at their bottoms.

2,466,809. PRESSURE MEASURING APPARATUS. Walter V. Hobbs. Columbus, Ohio, assignor to Ranco Incorporated, a corporation of Ohio. Application May 15, 1944, Serial No. 535,656. 6 Claims. (Cl. 73—398.)



6. In a pressure measuring apparatus, in combination, a vibratory reed comprising an elongated hollow rigid elastic member adapted to contain a fluid and having one end closed and the other end open, means connected with said open end for supporting said member for vibratory movement, means for varying the resonant frequencies of the reed comprising means adapted for connecting the open end of the member with a variable source of pressure for varying the fluid pressure differential between the interior and exterior of the hollow member in response to changes in pressure in said source of pressure; and means for imparting vibratory movement to the reed.

2,466,831. ICE CUBE MACHINE. Robert D. VanVleck, Burbank, Calif. Application March 21, 1945, Serial No. 583,884. 10 Claims. (Cl. 62—89.)



1. A machine of the character described including water storing means, means for successively metering like quantities of water from said storing means, a plurality of downwardly flared mold receptacles with hinged bottoms and operated to successively receive said metered quantities of water, means for freezing the water in the mold receptacle to form ice cubes, and means for successively ejecting said ice cubes downwardly out of said mold receptacles including a vertically reciprocating ejector with which the receptacles are successively aligned.

(To Be Continued)

DISTRICT REPRESENTATIVE

Manufacturer of Condensing Units has opening for representative in southeast United States. Prefer man who lives in and knows the Southeast. Attractive proposition in a now producing territory for the right man. Box 3234, Air Conditioning & Refrigeration News.

Let A Modern Factory Manufacture For You

If you are interested in private brand merchandise, a large eastern manufacturer of a complete line of commercial refrigerators and freezers now engaged in private brand manufacturing can take over manufacturing problems for you. Inquire now for complete details. BOX 3243, Air Conditioning & Refrigeration News.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $5.00 per insertion. Limit 50 words. 10¢ per word over 50.

RATES for all other classifications $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

DO YOU have a help problem? Let us solve yours. Select from our graduates the man qualified to handle your work. We have men available for all parts of the country, who have completed 34 weeks of practical shop refrigeration and some who have also completed our practical advanced training course in air conditioning. Many are very well qualified. THE ST. LOUIS SCHOOL FOR ELECTRICITY AND REFRIGERATION, INC., 6767 Southwest Avenue, St. Louis 17, Missouri.

MANUFACTURERS REPRESENTATIVE—Established sales engineer, desires direct factory representation on East Coast of well known line of refrigeration, air-conditioning, and allied products. Has own showroom and office facilities. Am favorably and well known in industry with many personal contacts among contracting dealers and distributors. BOX 3239, Air Conditioning & Refrigeration News.

RECENT M. E. graduate, Yale, no experience but very much interested in refrigeration and air conditioning field, fluent French and German and European background and education, willing to travel abroad, desires position with future, preferably in international field. BOX 3244 Air Conditioning & Refrigeration News.

MECHANICAL ENGINEER twenty-one years experience in refrigeration and air conditioning field in all phases of design, estimating, installation, contracting,—capable organizing and management. Desires connection with established air conditioning and refrigeration contractor or consulting engineer anywhere in U. S.—preferably Eastern or Southeastern territory BOX 3246 Air Conditioning & Refrigeration News.

ENGINEER AVAILABLE. Sales or applications. Widely acquainted throughout South. Past five years district sales manager for manufacturer of condensing units and air conditioning. Earlier experience includes teaching refrigeration and distributor work. Desire connection where know-how and initiative pay off. BOX 3248 Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

SALES MANAGERS wanted by commercial-refrigerator manufacturer. Several districts open for competent sales managers who can establish new sales outlets and work with dealers already established. Long-established manufacturer with excellent reputation and complete line of commercial refrigerators for self-service stores. Excellent opportunity for men with general knowledge of commercial-refrigerator business. Write giving full details of background and experience. Our present men know of these openings. BOX 3235, Air Conditioning & Refrigeration News.

AIR CONDITIONING and refrigeration engineer with practical experience. Extended program offers excellent opportunity. Give full particulars, advising salary expected. BOX 3238, Air Conditioning & Refrigeration News.

WANTED: EXPERIENCED man of proven record, sales and training salesmen, for long time covered Iowa territory, who can advance himself to branch manager and higher positions, with firm of long standing, manufacturing commercial refrigeration fixtures. Describe yourself fully, family, past employment, and earnings. Write BOX 3241, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

WANTED—MANUFACTURER'S surplus stock and others. We are in the market for open type machines ¼ H.P. and up—Also expansion valves—CP valves, etc. We are ready to negotiate quickly and pay immediately. Reliable organization. Transactions treated confidentially. References furnished if desired. BOX 3250 Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

RECORDING THERMOMETERS. Bristol electric 7 day remote -30° to plus 70°. Brand new. $69.00 each. BIMEL CO., Cincinnati, Ohio.

KELVINATOR WATER coolers—Brand new—fully guaranteed—latest pressure type with sanitary tops—10 gals. per hr.—Crated and ready for immediate shipment—$159.00 each net F.O.B. Phila., Pa. New ½-H.P. Livar hermetically sealed condensing units. $40.00 each net. FOGEL REFRIGERATOR COMPANY, 5400 Eadom St., Phila., Pa.—JEfferson 5-8300.

SPECIAL CLOSE-OUT on brand new Dole and Yoder freezer plates: size 19" x 30" @ $3.00; 22" x 32" at $3.00; 19" x 72" at $7.00. Also Bush finned coils 76" x 16" x 2¼" 6 tube single row @ $7.00. Subject to prior sale. Prices are net, F.O.B. N.Y.C. Send deposits to GENERAL REFRIGERATORS CORPORATION, 678 Broadway, New York 12, New York.

BRAND NEW Chrysler Airtemp condensing units, open type, air-cooled, complete with control: ¼ H.P., model B-25A, $59.00 ea.; ½ H.P., model B-33A, $69.00 ea.; ½ H.P., model B-50A, $89.00 ea.; ¾ H.P., model B-75A, $109.00 ea.; 1 H.P., model B-100, $139.00 ea. Prices are net, FOB NYC—subject to prior sale. Please accompany orders with deposits; balance s/d or COD. GENERAL REFRIGERATORS CORPORATION, 678 Broadway, New York 12, N. Y.

MACHINERY FOR sale: 1 Bishop & Babcock #224 blower complete with motor and starter. Practically new. BOX 3251 Air Conditioning & Refrigeration News.

CUSTARD MACHINES "Freez King" self-contained. Our store expansion program has been suspended, therefore, this sacrifice. Brand new in crates $495.00. BOX 3252 Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

REFRIGERATION BUSINESS for sale in large midwestern city. Ideally located for new and used, wholesale and retail. Includes exclusive distributorship in two leading commercial lines, service business, office and shop equipment. Ample floor space, long lease with low rent. Total fixed overhead is less than that of a small retail outlet. Goodwill has been built with several years of A-1 service and constant direct mail and newspaper advertising. Full price only $5,000.00 without merchandise, or merchandise inventoried at cost if desired. Have interests on West coast reason for selling. Will sell modern home in fine residential section also if desired. BOX 3228, Air Conditioning & Refrigeration News.

FOR SALE: Installation and service department of oldest established refrigeration house in Pittsburgh, Pa. Will divide service and installation department from sales department retaining name of firm. We sell them, you install, maintain service. Divide overhead which is small. Excellent opportunity. Small capital required. Write BOX 3230, Air Conditioning & Refrigeration News.

COMMERCIAL, DOMESTIC refrigeration and appliance store established 18 years in Southern California locality where year-round business assures of a fine income. Good lease, attractive premises and good location. Owner's age and failing health require relinquishment. Correspondence solicited. BOX 3245 Air Conditioning & Refrigeration News.

HOUSTON, TEXAS—well established commercial & air conditioning sales and service business for sale. For details write BOX 3249 Air Conditioning & Refrigeration News.

SCHOOLS

DETROIT AIR Conditioning Institute is accepting applications for enrollment in fall term classes starting September 13 and October 25. Fully GI approved courses in air conditioning, refrigeration, heating, ventilating, sheet metal layout, heat pump engineering. Write for free information. DETROIT AIR CONDITIONING INSTITUTE, Dept. D, 4125 Grand River, Detroit 8, Michigan.

MISCELLANEOUS

ATTENTION CONTRACTORS—Dealers—Servicemen. Norge sealed units remanufactured and exchanged. Immediate delivery from stock. 1 year guarantee. Write for prices and shipping instructions. MODERN REFRIGERATION CO., INC., 12541 E. McNichols Road, Detroit 5, Michigan.

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8-1-49

Refrigeration Problems

and their Solution

by Paul Reed

For Service and Installation Engineers

Paul Reed

Hot Weather Hints (5)

THREE FACTORS IN CONDENSER CAPACITY

From the previous discussion, it will be seen that there are three main points that determine the head pressure of an air-cooled unit:

1. The size of the condenser. There is not much to be done about this short of replacing it with a larger one, but we can be sure that all of the surface is clean of dust, lint, and other foreign matter that tend to insulate the condenser, as well as to restrict the amount of air through the condenser.

2. The temperature of the air to the condenser. This is usually room temperature, but sometimes it may be higher than room temperature, if some of the air is re-circulated. Also, the room may be too small or not well ventilated so that the air gets hotter as the condensing unit runs. If this is true, additional windows must be provided or even ducts run to an adequate supply of cool air.

3. The amount of air passing through the condenser. This we can control. We can be sure that the fan is the right one for that unit, but we must be careful about using too large a fan, for it may overload the motor.

See that the condenser is clean, that the shrouds are tight and that there are no boxes or other objects close to the air blast from the unit, that will set up "static pressure" and interfere with free circulation of air.

If it is a static condenser, see that the "flue" is open and that there is nothing restricting the inlet of air at the bottom of the refrigerator or at the top of the flue.

How can you tell if the head pressure of an air-cooled machine is too high? It is easy to figure the maximum head pressure. There are just two things to do:

(1) Add 35° to the room temperature. This gives the condensing temperature.

(2) Look up the pressure corresponding to this condensing temperature, in the temperature-pressure tables for that refrigerant, and that is the maximum head pressure.

Maximum Head Pressures for Air-Cooled Condensing Units

Room Temperature	Maximum Condensing Temperature	Maximum Head Pressures			
		SO_2	Methyl Chloride	"Freon-12"	"Freon-22"
70	105	77	111	126	213
75	110	85	120	136	229
80	115	93	130	146	245
85	120	106	140	157	263
90	125	112	150	168	Use
95	130	122	161	180	Water
100	135	133	173	193	Cooled
105	140	145	185	205	Machine

Example: Room temperature 75°—refrigerant "Freon-12."

(1) 75° + 35° = 110°, is the condensing temperature.

(2) 136 p.s.i.g. is the pressure corresponding to 110° in the saturation temperature-pressure tables. So 136 p.s.i.g. is the maximum head pressure for an air-cooled condensing unit, using "Freon-12" operating in a 75° room.

So we can build a table of *maximum* head pressures by the method shown in the table above.

These are the *highest acceptable* head pressures. If the unit is running at head pressures higher than these, something is wrong; they are not necessarily the head pressures at which the unit may be running at those room temperatures, for the unit may not be fully loaded or the condenser may have been selected on a basis of less than a 35° rise above room temperature.

What the head pressure should be at various room temperatures and at various loadings, may be easily and fairly accurately calculated also, but that is beyond the scope of the present discussion and will be considered in a later issue.

(To Be Continued)

Markson's Plans Expansion

ELMIRA, N. Y.—Markson's, operating a chain of appliance stores in central New York, has purchased property at the corner of E. 14th St. and Lynwood Ave., Elmira Heights, for erection of a new warehouse. It has outgrown existing facilities.

Acme Industries Announces 'Freon' Condenser Catalog

JACKSON, Mich.—A new catalog on Acme "Freon" condensers, called Catalog No. 23-B, was published recently by Acme Industries, Inc. here.

The book contains 12 pages of information on the firm's condensers including charts on capacity and engineering data, step by step methods of selection, and a series of tables covering the linear feet per ton at various water velocities.

Copies may be obtained free by writing to Acme.

Gatz Quits Service Parts Co. To Establish Own Supply Firm

CHICAGO—Al Gatz, formerly a principal in the Service Parts Co. of Melrose Park, Ill., has announced that he has severed his connection with that company and is establishing a wholesale refrigeration supply house known as Service Sales Co. at 4204 N. Lincoln Ave., here.

Krich-Radisco Appoints Sy Radzwiller To Direct Merchandising, Promotion

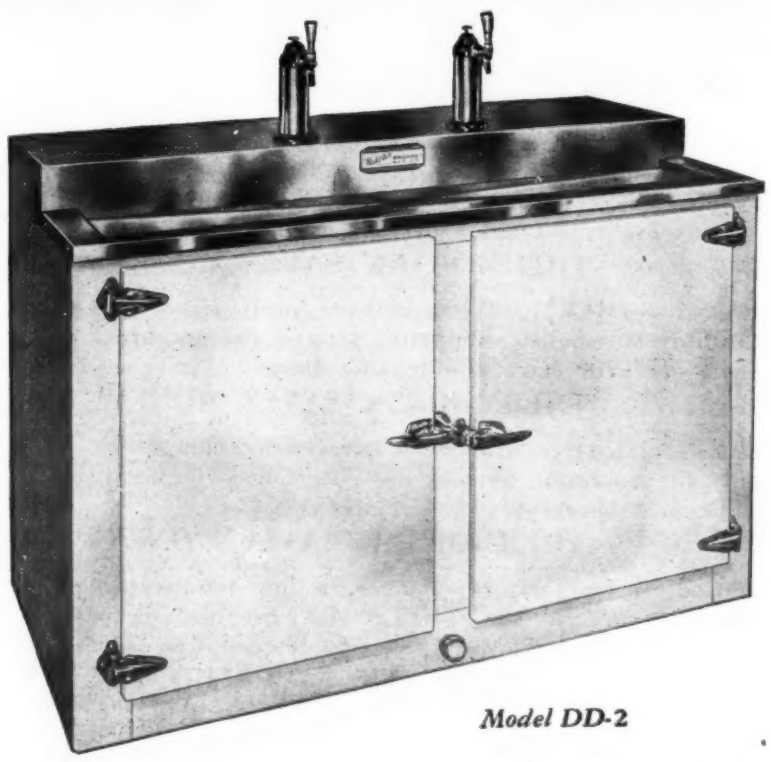
NEWARK, N. J.—Sy Radzwiller has been appointed director of merchandising and sales promotion for Krich-Radisco, Inc., appliance distributor covering the northern New Jersey territory, Paul R. Krich, executive vice president, has announced.

Radzwiller has been major appliance editor for *Retailing Daily* for the past five and a half years.

According to Krich, Radzwiller will be responsible for the coordination of Krich-Radisco's merchandising, advertising, sales promotion, public relations, and publicity programs.

In this capacity, he will operate in conjunction with William W. Cone, vice president in charge of the company's RCA Victor division; Andrew K. Leach, vice president in charge of the Norge division; and Barney G. Krich, vice president in charge of the Bendix division.

MASTER-BILT DIRECT DRAW CABINET



Model DD-2

Made in 2 and 3 half barrel, remote and self-contained models. Distributors & Dealers write for details.

MASTER-BILT REFRIGERATION MFG. CO.

920 PALM STREET • ST. LOUIS 7, MO.

Here's what **ELECTRICAL MERCHANDISING** *says about "The Marshal's Baton"...*

"The Marshal's Baton"

A comprehensive knowledge of merchandising, combined with a refreshing approach, makes George Taubeneck's book on specialty sales management well worthwhile

SHOOTING the breeze with George Taubeneck can be a pretty exhilirating experience. Strictly speaking, it takes two people to carry on a dialogue, but the publisher-editor of *Air Conditioning and Refrigeration News* manages somehow to impart a give-and-take, conversational atmosphere to his writing. In "The Marshal's Baton" (Conjure House, Detroit, $5) you'll find a discussion of specialty sales management which is about as informal as it could be. It's as if Mr. Taubeneck were anticipating argument all along the line, and throwing out his rebuttal off the cuff. And it's made all the more refreshing by the humor interspersed throughout. A sizable booklet could be compiled just by lifting from the text all the illustrative anecdotes (along with some not so illustrative, as the author is the first to admit).

Napoleon Said It

The book's title is derived from a remark of Napoleon's that "Every private carries a marshal's baton in his knapsack." It is dedicated to the private on the sales staff who want to become marshals in the front office—in this case, specialty sales managers. What it adds up to is a survey, in general terms, of everything a specialty sales manager ought to know. A tall order; no wonder it takes 570 pages to do the job.

It's All There

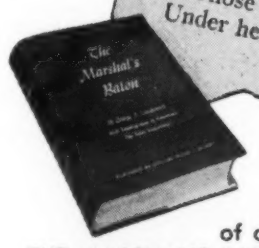
Those 570 pages make fast reading. Under headings like "It's a Great Profession," "Price-Making Is Like Walking a High Wire—And How!" "The Distributors? God Bless 'Em!" and 19 others, Mr. Taubeneck runs through the whole merchandising field in a style which is breezy, but not so breezy that it obscures a wealth of information and advice. He knows his stuff, and he holds nothing back. But—and it's a big "but"—he insists, again and again, that there are a million essentials that a good specialty sales manager can't be told. He can learn them only through doing his job, since that job involves the always variable human equation.

High Brass Helps Out

To bolster his statements, Mr. Taubeneck quotes from a number of eminent sales executives, many of whom contributed their comments expressly for this book. Their remarks deal not only with specific, practical matters, but with business ethics and philosophy, and they deserve the permanent form which the book gives them.

Wide Application

Because the main concern of "The Marshal's Baton" is helping to coordinate manufacturing and production with sales on the distributor, dealer and consumer levels, it holds much of interest to almost anyone involved in business. And the appliance field comes in for more than its share of scrutiny. There is little point in trying to cover this volume chapter by chapter; there's too much in it. Investigate it for yourself. You won't be sorry.



And this is just a small sample of critical comment which has hailed THE MARSHAL'S BATON as a significant contribution to the science of sales management. It is written in the light of merchandising problems today and tomorrow. It's a brilliant new source of knowledge and wisdom which can be of tremendous importance to *you*. **$5.00**

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Conjure House

BOOK DIV. OF BUSINESS NEWS PUBLISHING CO.

450 W. FORT ST., DETROIT 26, MICH.

Utah Utility, Electrical Assn. Blanket Area With Home Freezer 'Plugs' In 30-Day Drive

SALT LAKE CITY — Prospective buyers of home freezers in this area are being subjected to a heavy barrage of promotional material aimed at them by the Utah Power & Light Co. and the Intermountain Electrical Association.

Ammunition in the form of "a tremendous amount of advertising" is being fired at prospects through every available "gun": newspapers, radio, television, and direct mail.

Retailers have been invited to take advantage of the big, 30-day drive.

"With a multitude of dealers offering frozen foods as a special inducement to make people 'buy now,' it's the opportune time to push home freezers—and make cash registers ring profits," the utility pointed out.

The campaign got under way on Sunday, July 17, with the publication of special home freezer sections in the *Salt Lake Tribune* and *Deseret News*. Quarter-page advertisements were inserted in these sections and in the main news section of the *Ogden Standard-Examiner*.

On the following three days, the advantages of freezers were explained to home makers at a school conducted under sponsorship of the *Salt Lake Tribune-Telegram* in the newspaper's auditorium. The selection of foods for freezing, processing foods for freezing, and cooking foods were highlighted.

Every newspaper and radio station in the utility's territory is carrying home freezer advertising. This includes 60 newspapers and 17 radio stations.

A total of 255 radio messages urging the public to visit their dealers and see the new home freezers on display is being broadcast. Announcements are staggered throughout every hour of the day.

In addition, freezers are spotlighted on Utah Power & Light's half-hour, night-time television show featuring home economists. This program, televised by KDYL-TV, has been staged in the afternoon for the past several months, but was shifted to the evening to reach a larger audience.

To further stimulate interest in freezers, the utility has put product advertising on the post-card bills which will go to its 135,000 customers during the drive. The advertising features the phrase, "A freezer is a store in your home that never closes."

Dealers were urged to capitalize on the program by displaying home freezers in store windows and in a prominent place inside the store, instructing every sales person to suggest freezers to every customer who enters the store, having outside sales people make calls at homes, and featuring freezers in all store advertising.

"Many dealers," the utility noted, "are taking advantage of a frozen foods offer as a special incentive to create home freezer sales.

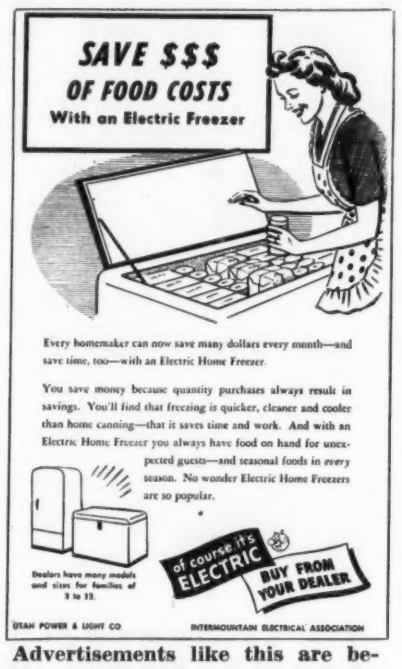
"Dealers are offering a variety of frozen foods and two dozen glass freezer jars, $34.72 retail value, for only $26.10 with purchase of a home freezer. Dealers take no mark-up on these items. . . ."

To obtain the premium kit, it was explained, the dealer procures a requisition from his distributor for each group of merchandise. The distributor calls or issues a written requisition to each of the suppliers for a release of the kit to the dealer. The suppliers bill the distributor for the merchandise released to the dealer, and the distributor in turn bills the dealer.

Utah Power & Light gave retailers another tip. It passed on details of a toaster tie-in demonstration developed by a training director for a distributor, who reported that "we keep a toaster on top of the home freezer and a loaf of bread frozen stiff as a board inside.

"Let a prospect linger a minute and we reach in and bring out a slice, letting the prospect handle it to see how hard it is. Into the toaster it goes, and in a minute it pops up thawed out and a golden brown.

"No other way I have encountered dramatizes how well a home freezer keeps pastry, and yet makes understandable how quickly it is thawed out ready for instant use."


SAVE $$$
OF FOOD COSTS
With an Electric Freezer
Every homemaker can now save many dollars every month—and save time, too—with an Electric Home Freezer.
You save money because quantity purchases always result in savings. You'll find that freezing is quicker, cleaner and cooler than home canning—that it saves time and work. And with an Electric Home Freezer you always have food on hand for unexpected guests—and seasonal foods in every season. No wonder Electric Home Freezers are so popular.
Dealers have many models and sizes for families of 3 to 13.
of course it's ELECTRIC
BUY FROM YOUR DEALER
UTAH POWER & LIGHT CO
INTERMOUNTAIN ELECTRICAL ASSOCIATION

Advertisements like this are being used in Utah to promote home freezers.

* * *

Westinghouse Says 'No'--

(Concluded from Page 1, Column 2)

business is one of reducing costs and keeping prices low, not raising them.

"Our orders obtained in the first five months of 1949 were 11.5% below the same period in 1948. This has made it necessary to cut production and reduce employment from 105,000 in January to approximately 90,000 today.

"We are deeply concerned about this reduced demand for our products and the resulting decrease in employment. The task we face is to get more orders by holding the price of our products as low as possible.

"Only in this way will we be able to secure a greater volume of business, keep our people on the job, and earn sufficient profits to maintain the company on a sound financial basis.

"In past years, the union has pointed to increased living costs as the principal reason for a wage increase. This year the cost of living has started down. The consumer price index of the U. S. Bureau of Labor statistics has declined from a high of 174.5 in Sept., 1948, to 169.2 in May, 1949."

New Philco Models--

(Concluded from Page 1, Column 5)

drawer, a self-closing door latch, a glass tray for food storage and defrosting, and 12.1 sq. ft. of shelf area.

Philco, in its model 795, claims to offer the consumer its Advanced Design features "at the price of ordinary refrigerators."

The model 795 has the zero-zone, full-width home freezer, adjustable shelves, and Summer-Winter control of humidity. A shelf area of 14.9 cu. ft., two glass covered crispers, a meat storage drawer, and a dry storage bin are among other features of this lowest-priced Advanced Design combination.

Dept. Store Sales Decline 9% In Week of July 16

WASHINGTON, D. C.—A 9% drop in the dollar volume of department store sales for the week ending July 16 as compared with the corresponding week last year was reported recently by the Federal Reserve Board.

The Richmond district was the only one to show a gain, 2%. The declines ranged from 6% drops in the Philadelphia and Atlanta districts to a 13% drop in the St. Louis district.

Percentage declines in other districts were as follows: Boston 8, New York 11, Cleveland 10, Chicago 12, Kansas City 9, Dallas 7, and San Francisco 7.

Sales for the year to July 16 were 4% under those of the corresponding period last year.

Rheem's First-Half Profit, Sales Fall Below Levels of Year Ago

NEW YORK CITY—Rheem Mfg. Co. recently reported a net income of $1,144,405, or $1.09 per common share, on sales of $23,813,000 for the first six months of 1949. This compared with a net income of $1,571,033, or $1.51 per share, on sales of $27,760,000 for the same period last year.

Revised Building Code For Houston To Include Air Conditioning 'Specs'

HOUSTON, Tex.—A revised building code for the City of Houston will include specifications on air conditioning and floor furnaces, W. J. Carlin, city design engineer working on the code, said recently.

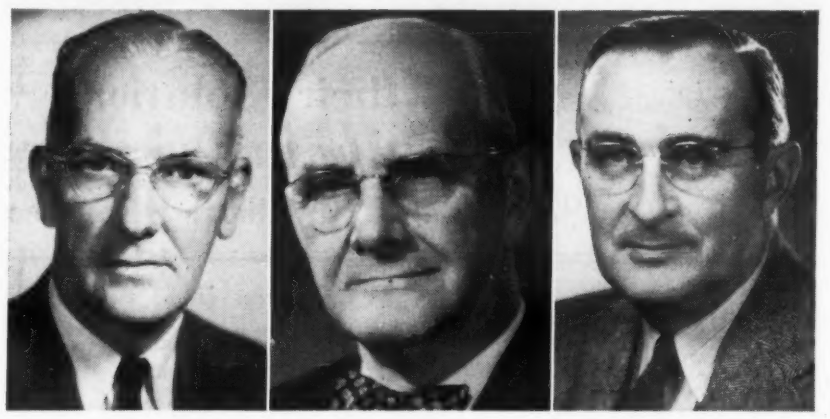
"The new code, as I am preparing it, will include provisions for new materials that have been developed, including vermiculite, which is a lightweight fire resistant material and it will have specifications for a lot of things which are almost or entirely absent from the old code," Carlin explained.

"There are thousands of floor furnaces being installed, with little control over them, and lots of small air conditioning units are installed virtually without inspection, because of the present code provisions," he added.

"Other things that need to be included and are almost entirely ignored in the old code include mechanical refrigeration, attic ventilation, elevators, dumb waiters, mechanical amusement devices, escalators, liquified petroleum gases, smoke prevention and inspection, and electrical and hanging signs," he said.

Revision of the code was undertaken last April, but the first draft has not yet been written, Carlin reported. He said the new code will be patterned after the New Orleans code which was approved last February. Plumbing was left out of the New Orleans code, but will be included in Houston's, he said.

They Serve In New Roles at Lynch Corp.



J. P. McCARTHY, Vice Pres. of Mfg. — T. C. WERBE, Chairman of Bd. — M. H. PENDERGAST, President

'Overtime' Pay Clarification Awaited--

(Concluded from Page 1, Column 5)

states Secretary of Labor Maurice J. Tobin.

These premiums may then also be credited toward overtime compensation which may be due under the Wage and Hour law for work in excess of 40 hours in a workweek.

It is indicated that this amendment will make no change in the requirement that commissions paid to refrigeration servicemen, say, for the sale of parts have to be considered as part of their base pay in determining their overtime rates should they work in excess of 40 hours.

As it stands under the new amendment, special rates of pay for work on Saturday, Sunday, a holiday, or the sixth or seventh day of a workweek, as required in certain contracts between employers and unions, may be counted toward time-and-a-half overtime payments called for work in excess of 40 hours a week under the Wage and Hour act.

If such premium rates are equal or in excess of 1½ times the non-overtime rate, then no additional overtime payments will be required.

Ever since that Supreme Court decision last year, employers have been required to include such premium payments as part of the base pay in determining overtime rates for work over 40 hours.

The new amendment also applies to premium payments for certain hours, such as work at night, before or after scheduled shifts, or at other hours.

MORE CAPACITY—The capacity of an evaporator drops rather sharply when it is used at low temperature levels because of heavy frosting. The THERMOBANK evaporator is rated under actual low temperature operating conditions, guaranteeing full rated capacity on the job.

THERMOBANK SAVES MONEY!

NO EXTRA MAINTENANCE—THERMOBANK defrosts itself. Since the THERMOBANK is so infallibly automatic, eliminating electric heaters, brine and water sprays, it does away with extra maintenance labor.

THERMOBANK SAVES MONEY!

LESS OPERATING TIME—An ice-free evaporator gives more compressor capacity. This cuts sharply the operating time of the system and frequently permits the use of a smaller size compressor.

THERMOBANK SAVES MONEY!

NO SPOILAGE LOSS—Radical temperature changes in low temperature rooms cause serious dehydration. In the THERMOBANK the freezer temperature is practically constant. This eliminates deterioration and weight losses.

THERMOBANK SAVES MONEY!

Send for Catalog 16R-A

THERMOBANK - - - - - - THE STANDARD OF THE INDUSTRY!

KRAMER TRENTON CO. *Trenton 5, N. J.*

THERMOBANK - COOLMASTER - RADIAL UNITS - PANEL UNITS - CUBERS - FINNED COILS - BARE TUBE COILS - HEAT INTERCHANGERS - CONDENSERS Air Cooled, Water Cooled, Evaporative - WATER COOLING EVAPORATORS - BLAST COOLING COILS - BLAST HEATING COILS.